Phase I Archaeological Literature Review, Prehistoric Context, and Archaeological Sensitivity Assessment for the Opportunity Corridor Project (PID 77333), City Of Cleveland, Cuyahoga County, Ohio

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By

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ABSTRACT

Under contract with HNTB Corporation, ASC Group, Inc., has completed a Phase I literature review, prehistoric context, and archaeological sensitivity assessment for the Opportunity Corridor project (PID No. 77333) in the City of Cleveland, Cuyahoga County, Ohio (Figure 1). The proposed project is a major transportation improvement project designed to provide connectivity between Interstate I-490 and University Circle as well as improving traffic flow and encouraging economic growth in the "forgotten triangle" section of the city. The new roadway will be a multilane boulevard that will be located within a corridor that is approximately 3.5 miles (5.6 km) long and a maximum of approximately 0.6 miles (0.96) wide, with some extensions occurring along major thoroughfares and railroad lines that will likely need to be modified to accommodate the new roadway. This portion of the cultural resources investigation was undertaken to comply with Section 106 of the National Historic Preservation Act of 1966, as amended.

At this preliminary stage of design, the goals of this archaeological investigation are to collect data regarding previously identified cultural resources within the archaeological study area (ASA) and previous archaeological investigations in the vicinity, to develop a prehistoric context and environmental setting for the ASA, and to evaluate the potential for significant archaeological resources to exist within select portions of the ASA. The ASA is defined as the project corridor depicted on Figures 1–3. The archaeological sensitivity assessment can then be used as a guide to appropriately scope and design effective and efficient archaeological testing strategies for portions of the ASA, once a road alignment has been determined and the actual extent of subsurface impacts is clear.

The literature review identified 15 resources within the ASA that have either been listed in the National Register of Historic Places (NRHP), determined eligible for listing, or have been designated as local Cleveland Landmarks by the City of Cleveland. The majority of these properties are concentrated at the northern margin of the ASA in the vicinity of University Circle. In addition, the literature review identified nine archaeological sites within or in the vicinity of the ASA. Three of the archaeological sites were recommended not eligible for inclusion in the NRHP, and six have not been evaluated for potential significance.

The archaeological sensitivity assessment drew on data gathered from the literature review, prehistoric and environmental backgrounds, a historic context for the project prepared by Michael Baker Corporation, and a review of historic cartographic sources. The various data sets were evaluated to assess the potential for significant archaeological sites to remain intact across 11 distinct portions of the ASA. The majority of the ASA was found to have a low potential to contain significant archaeological resources. Three of the 11 sub-areas, however, were determined to have a low to moderate potential to contain significant archaeological resources based on the potential resource type and their associated historic context.

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INTRODUCTION

Under contract with HNTB Corporation, ASC Group, Inc., has completed a Phase I literature review, prehistoric context, and archaeological sensitivity assessment for the Opportunity Corridor project (PID No. 77333) in the City of Cleveland, Cuyahoga County, Ohio (Figure 1). The proposed project is a major transportation improvement project designed to provide connectivity between Interstate I-490 and University Circle as well as improving traffic flow and encouraging economic growth in the "forgotten triangle" section of the city. The new roadway will be a multilane boulevard that will be located within a corridor that is approximately 3.5 miles (5.6 km) long and a maximum of approximately 0.6 miles (0.96) wide, with some extensions occurring along major thoroughfares and railroad lines that will likely need to be modified to accommodate the new roadway (Figures 1–3).

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BACKGROUND RESEARCH

ENVIRONMENTAL SETTING[1]

Cuyahoga County is situated in two contrasting provinces: the Central Lowlands province, which extends along Lake Erie, and the Appalachian Plateaus province (Brockman 1998; White 1982). The archaeological study area (ASA) lies within the Huron-Erie Lake Plans section of the Central Lowlands province. The glacial erosion tends to smooth the bedrock topography by covering the ground with glacial drifts, smooth the uplands, and excavate deep valleys partially filled in by glacial drift. The ASA is located in the northern portion of Cuyahoga County. This is within the Lake Erie Plain region of the Huron-Erie Lake Plains section (Brockman 1998). This area is a very low relief (10-ft [3-m]) edge of a an Ice Age lake basin separated from modern Lake Erie by shoreline cliffs and the Appalachian Plateaus by the Portage Escarpment (Brockman 1998; White 1982). The topography, although nearly level, is cut by several major stream valleys, some in steep gorges (Brockman 1998; United States Department of Agriculture, Soil Conservation Service [USDA, SCS] 1980). The ASA is located just below the Appalachian Plateaus at the point where the Cuyahoga Valley cuts through the escarpment.

Cuyahoga County's bedrock consists of Devonian-, Mississippian-, and Pennsylvanian-age rock. The Devonian system bedrock consists of Ohio Shale, which contains the Cleveland, Chagrin, and Huron members, and a narrow band of Berea Sandstone and Bedford Shale. In northeast Ohio this system underlies a large band along the lake that follows the Huron-Erie Lake Plains section of the Central Lowlands province and extends south along the Rocky, Cuyahoga, and Chagrin river valleys. The Pennsylvanian system bedrock within Cuyahoga County belongs to the Allegheny and Pottsville groups. Small pockets of this bedrock at the edges of the county extend to the north and east into the adjacent bedrock. Between the Devonian- and Pennsylvanian-age bedrock lays the Mississippian system bedrock. It consists of the Logan and Cuyahoga Formations (Slucher 2006).

The ASA is underlain by Ohio Shale. The Cleveland member is a black shale that is thickest in the north-central portion of state. The Cleveland member shale thins to the south and east, and is absent in the northeastern portion of the state. The Chagrin member contains gray to greenish gray shale, siltstone, and very fine-grained sandstone that is thickest in the northeastern

[1] Adapted from Mustain et al. (2006).

portion of the state, grades into underlying and overlying black shale members, and thins southwestward, where it eventually becomes Three Lick Bed in the southern portion of the state. The Huron member is a predominantly black, carbonaceous shale, with the calcareous concretions most common in lower portions of the strata (Slucher 2006).

The Devonian system bedrocks do not contain a significant chert-bearing limestone member (Stout and Schoenlaub 1945). Maxville formation limestones were laid down on the sandstones and shales belonging to the Logan formation of the Mississippian system and then cut away from the top during a long cycle of erosion, leaving only small isolated areas. In general, the Maxville formation limestone is free of chert in any form or, in rare cases, represented by scattered nodules (Slucher 2006; Stout and Schoenlaub 1945). The Pennsylvanian system limestones contain the closest chert-bearing strata, which consists of part of the Upper Mercer member of the Pottsville formation located in southern Summit County, with pockets scattered throughout southern Cuyahoga and northern Medina counties. Cuyahoga County does not have abundant sources of chert. Prehistoric peoples could have utilized glacially laid chert cobbles or traveled into Summit or Portage counties or farther south for a high-quality chert for tool-making material. However, the smaller pockets of the Pennsylvanian system limestone previously mentioned may have provided a sufficient chert source to eliminate the needs for long-distance travel (Lamborn 1951; Stout and Schoenlaub 1945).

Cuyahoga County has a complex glacial history containing five major glacial landforms: Wisconsinan lacustrine (lake) deposits, kames and kame terraces, outwash plains, ground moraine, and end moraine. A sixth nonglacial landform consists of recently deposited alluvium along the Cuyahoga and Rocky rivers. Three major ancient beach ridges are also present within Cuyahoga County: the Warren beach ridge (closest to Lake Erie), the Whittlesey beach ridge, and the Maumee beach ridge (farthest south from Lake Erie). The ASA is located on a lacustrine plain just above the Cuyahoga River Valley. This area is a 2-mi to 12-mi (3.2-km to 19.3-km) wide strip of land greatly affected by wave action, longshore currents, and wind when lake levels in the Erie basin were considerably higher. There is a series of terraces and wave-cut cliffs on which are deposited numerous smaller beach ridges. The beach ridges are sand and gravel deposits and the intervening lake plains tend to be silty and clayey water-worn Woodfordian till. (USDA, SCS 1980; White 1982).

There are two glacial landforms present within the ASA. Nearly the entire ASA is on the Wisconsinan lacustrine plain, mostly in areas with lake-deposited sand but also in some areas of silt deposited in slackwater areas. There is a narrow beach ridge at the foot of the Portage Escarpment along the east edge of the ASA that is part of Whittlesey beach ridge. Two small extensions of the ASA along Woodland Avenue and Buckeye Road impinge on this beach ridge. Doan Brook cuts through the Warren beach ridge at the north end of the ASA. Portions of the beach ridge may be present within the ASA south of the intersection of Hough Avenue and East 105th Street but it is more likely north Hough Avenue and the ASA (Pavey et al. 1999; White 1982).

During the Kansan glaciation, all of the drainages in northern Ohio were blocked by the ice, which caused major shifting in the drainage patterns. Prior to the first glacial advance, the Dover and Ravenna rivers, Olmsted Falls Creek, and a small, unnamed stream drained Cuyahoga County. During the post-Illinoian stage, Cuyahoga County was primarily drained by the Massillon River, which followed the course of the lower Cuyahoga River. The Massillon River flowed along the valley originally cut by the preglacial Dover River and remained a part of the Gulf of Saint Lawrence watershed. As a result of the Wisconsinan glacial advance, which locally reached its terminus in Stark County, the headwaters of the Massillon River reversed course to become the Tuscarawas/Walhonding/Muskingum River drainage system. The northern reaches of the Massillon River developed into the Cuyahoga watershed that exists today. Historically Cuyahoga County has been drained by the Cuyahoga, Chagrin, and Rocky rivers, and drains directly into Lake Erie. Lake Erie, the major geographic feature in the area, is also a result of these glacial advances (Stout et al. 1943).

The ASA is drained by Kingsbury Run, which cuts into the Cuyahoga River Valley at the western end of the ASA, and Doan Brook, which drains the University Circle area and flows through Rockefeller Park and directly into Lake Erie. Both of these drainages have been extensively modified and little of Kingsbury Run and its headwaters remain as surface drainages. Although it is along a part of the Cuyahoga River that has been channelized, the mouth of Kingsbury Run is still present about 1,000 ft (350 m) north of the I-490 bridge, which connects to the ASA's western terminus. A third drainage, Giddings Brook, which once flowed into Lake Erie between the Cuyahoga River and Doan Brook at the Cleveland Lakefront Park, has been completely buried in pipes as part of the Cleveland sewer system (Beach 2007). It crossed the

ASA between Woodland and Quincy Avenues east of East 93rd Street in a disturbed area between railroad tracks. All of these drainages are part of the Lake Erie watershed and eventually flow into the Gulf of Saint Lawrence. This region would have provided prehistoric and historic peoples with abundant water sources, a means of transportation, and multiple floral and faunal food resources.

The ASA falls within four soil associations defined by USDA, SCS (1980): Urban land-Mahoning, Urban land-Mitiwanga, Urban land-Elnora-Jimtown, and Urban land. These are deep and moderately deep soils in urban areas. As would be expected, the individual mapping units encompassed by the ASA are also, with one exception, urban in nature. The ASA is dominated by Urban land-Elnora complex, nearly level and Urban land-Mitiwanga complex, undulating series soils, with smaller areas of Udorthents, loamy, Urban land, Urban land-Mahoning complex, undulating, and Loudonville-Urban land complex, rolling series soils (USDA, NRCS 2009a). There is a small area of Brecksville silt loam, 25–70 percent slopes, along Doan Brook near the Cleveland Museum of Art at the north end of the ASA in University Circle. The areas of urban land are covered by asphalt, concrete, buildings, etc., and Udorthents are areas of cut and fill (USDA, SCS 1980). Although, some areas of relatively intact soils are present within the mapping units that are complexes, it is unevenly distributed and likely no more than about 20 percent of the area. The non-urban land components of these complexes are described by the USDA, NRCS (2009b) as follows:

- The Elnora series consists of very deep, moderately well drained soils formed in sandy glacial lake, eolian, and deltaic sediments. Elnora soils are on beach ridges and relict longshore bars on glacial lake plains and associated deltas of Wisconsin age. They formed in water sorted or windblown deposits dominated by fine sand with a significant amount of very fine sand. Slope ranges from 0–8 percent.
- The Loudonville series consists of moderately deep well drained soils formed in loamy till and underlain by sandstone or siltstone within a depth of 20–40 in (50–100 cm). Loudonville soils are nearly level to very steep and are formed in till which is moderately deep over sandstone or siltstone. Slope ranges from 0–70 percent. Loudonville soils formed in medium textured glacial till of Wisconsinan or Illinoian age although the lower part of some pedons may be derived from or influenced by the underlying rock. A thin (less than 14 in [35 cm]) loess mantle is present in some areas.
- The Mahoning series consists of very deep, somewhat poorly drained soils formed in till on till plains. Mahoning soils formed in low-lime till on till plains of Wisconsin age. The till is derived primarily from shale and siltstone, with minor amounts of limestone and crystalline erratics. Slope is primarily 0–6 percent, but ranges to 15 percent.

- The Mitiwanga series consists of moderately deep, somewhat poorly drained soils formed in 20–40 in (50–100 cm) of till underlain by sandstone bedrock. The Mitiwanga soils are on flats, shoulders, and back slopes on till plains and lake plains. Slope ranges from 0–6 percent. They formed in till of Wisconsin age that is moderately deep to sandstone bedrock.

Prior to urban development the area appears to have supported fertile soils for farming, dense native forests, and abundant wildlife, and would have provided early prehistoric cultures with many exploitable food and building resources. This area was most likely conductive to prehistoric and early historic inhabitants' pursuits of horticulture.

The climate in Cuyahoga County is characterized as continental, and is influenced by winds blowing off of Lake Erie. These lake winds tend to lower temperatures during summers and raise them during winters. Summers are moderately warm and humid, and winters are mostly cold and cloudy. Average yearly precipitation for the county is adequate for most crops on most soils (USDA, SCS 1980). These climatic conditions have persisted without significant change throughout the postglacial period (i.e., the last 10,000 years), and sufficient rains and frost-free days have existed annually over the past millennium to provide favorable conditions for raising crops, and for permanent year-round settlement (Brose 1981).

Ohio lies in the Temperate Deciduous Forest Biome (Shelford 1963). However, the region has undergone a drastic transformation from the original vegetation cover due to large-scale deforestation for agriculture and residential development. At the time of the earliest land surveys, the ASA was characterized by mixed oak forests that persisted along Kingsbury Run well above the Portage Escarpment into the adjacent beech forest (Gordon 1966). The mixed oak forests included areas of various types of oak forests, including white oak-black oak, oak-hickory, white oak-black oak-chestnut, white oak, and chestnut oak-chestnut (Gordon 1966). Beech forests dominated most of the area above the escarpment and were characterized by a large fraction of beech, sugar maple, red oak, white ash, and white oak, with scattered individuals of basswood, shagbark hickory, black cherry, and more rarely, cucumbertree (Gordon 1966). This floral environment would have provided a wide variety of food resources for prehistoric peoples, as well as provided a habitat for a varied faunal community. Excavations at two sites within Cuyahoga County failed to identify any floral remains utilized by prehistoric peoples: 33CU30, the Hillside Road site (Brose 1976), and 33CU40, the Walnut Tree site (Pratt 1979). Samples of floral remains at 33SU18, the Krill Cave site in nearby Summit County

documented the utilization of hickory nuts, black walnuts, butternuts, and wild cherries as native foodstuffs by prehistoric populations (Prufer et al. 1989).

As presented by Brose (1976), early accounts indicated that numerous animal species were present within the river valley area, and included white-tailed deer, wapiti, black bear, cottontail, beaver, bobcat, cougar, raccoon, badger, red and gray fox, wolf, and muskrat. Bird species included wild turkey, American woodcock, passenger pigeon, bobwhite quail, and several species of owls and hawks. Waterfowl included mallard, black duck, and geese. Also present were numerous fish, frog, and turtle species, as well as mollusks. All of these had potential value to the prehistoric populations within the area. An extensive collection of faunal remains was recovered from 33CU30, the Hillside Road site in Cuyahoga County. A total of 372 complete and partial faunal remains were recovered and included white-tailed deer, wapiti, bear, beaver, turkey, Canada goose, frog, catfish, yellow perch, and numerous mollusk species (Brose 1976). This collection documents a variety of fauna available for subsistence procurement during prehistoric and early historic times.

In summary, the data indicates that environmentally this area was available for occupation both prehistorically and historically. This area would have been habitable with the recession of the ice sheets. The complex interactions of glaciation, hydrology, and soil formation have created an area containing excellent and generally sufficient resources for human habitation. Glacial forces buried earlier drainage systems and formed a landscape with distinct and diverse attributes. The lake terraces and beach ridges still survive today and are important resources and landmarks. The floral environment was characterized by a multitude of food resources and building materials. The fauna were abundant due to floral opportunities. The soils were also well suited to maintain the varied floral and faunal environments. Although Cuyahoga County is generally lacking in chert resources, nearby Summit and Portage counties have numerous chert outcrops that would have provided abundant material for tool production. All of these factors indicate that this area was conductive to both prehistoric and historic occupation. Therefore, it is possible that archaeological sites will be located within the ASA.

Regional Prehistoric Setting[2]

The purpose of developing a prehistoric setting is to provide a general background through the synthesis of information regarding the prehistory of the area from previous

[2] Adapted from Mustain et al. (2006).

investigations and general work of Eastern and Midwestern North American prehistory against which local developments can be examined. Regional information provides an interpretive framework by that allows site significance to be addressed.

Paleoindian

It is estimated that occupation of the Ohio area would have been possible by approximately 11,000 B.C. to 11,500 B.C. By this time, the glacial front that had once covered Ohio had retreated into Ontario (Seeman and Prufer 1982). The Paleoindians, the first known prehistoric population to occupy the Ohio area, were highly mobile, small-band hunters moving on a seasonal basis in order to more fully exploit available natural resources (Dragoo 1976). Although probably in pursuit of herd animals, the Paleoindians were opportunists willing to utilize a broad spectrum of animal and plant resources. Payne (1987) has documented beach-related occupations miles from the present Lake Erie shoreline. Many of these occupations correspond to outcroppings of Pipe Creek and Dundee chert sources.

The database of Paleoindian sites in Ohio has been steadily growing over the past 40 years. Information on Paleoindian settlement patterns and the distribution of fluted projectile point types were first provided by Prufer and Baby (1963) who examined a sample of surface-collected fluted points that are diagnostic of the early Paleoindians. Their study noted that the distribution of these artifacts follows a diagonal line across Ohio, which corresponds roughly to the maximum Wisconsinan glacial boundary. Most fluted points recovered in Ohio are isolated surface occurrences associated with the main tributary valleys. The majority of the points were made from locally available chert and flint, suggesting that groups did not range widely (Prufer and Baby 1963). Seeman and Prufer (1982) studied a larger sample of fluted points concluding that fluted points are frequently found in major stream valleys and confluences; sites tend to occur close to quality flint resources; and fluted points are rarely found in extensive swampy lowlands or in rugged highlands, such as the unglaciated portions of southeastern Ohio. Contrary theories have also been raised, one of which was proposed by Lepper (1983). He believes that, although these early studies may reflect Paleoindian settlement patterns, subsequent study has suggested that cultivation and population biases may not necessarily accurately represent these Paleoindian settlement patterns.

The archaeological record of the region's hunter-gatherer Paleoindian period is characterized by small lithic scatters and isolated finds of diagnostic, fluted projectile points.

Notable exceptions include larger lithic scatters such as those found at 33ST357, the Nobles Pond site in Stark County, a multipurpose base camp (Seeman et al. 1994), and 33ME274, the Paleo Crossing site in Medina County (Brose 1994), which contains primary context and remnants of structural features, making it eligible for listing on the NRHP. Paleoindian sites are often found on high ground adjacent to major stream valleys, particularly at the confluence of a major tributary, or adjacent to former glacial wetlands, as is the case for 33ST357 and 33ME274.

Archaic

As the glaciers retreated northward at the end of the Pleistocene, a period of significant environmental change ensued. The climate became temperate, large game species became extinct, and the deciduous forest common today developed, replacing the boreal-coniferous forests. This environmental change was the catalyst for human adaptive shifts and settlement practices which are collectively encompassed within the Archaic period (Ford 1974). Artifact assemblages from Archaic sites show an increased range of tool types, some of which have specialized functions for the processing of a wider variety of plant and animal resources (Griffin 1967). Although all Archaic period human groups were hunters and gatherers, environmental differences led to regionally distinctive artifact assemblages by the end of the period, which may reflect culturally distinct human social groups (Dragoo 1976).

Changes in human social organization occurred concurrently with expanding food procurement strategies. In eastern North America, organizational changes generally included restricted group mobility, larger aggregations of individuals, development of ritual behavior, development of interregional exchange systems, and the first attempts at plant domestication (Ford 1974). Other results included smaller group territories, sites occupied for longer periods, reuse of sites at more frequent and probably more regular intervals, and the use of a wider variety of plants and animals. Storage facilities and vessels also began to appear more frequently, as did evidence for incipient cultivation of some plant species. Burial ceremonialism and other ritual behavior developed and showed signs of becoming formalized in some regions. Ritual activity might be linked to the establishment of social group identities, the maintenance of territorial boundaries, and the regulation of intergroup alliances and trade. However, this proposition has neither been adequately tested nor fully demonstrated.

Research has shown the progression of these adaptations through the Archaic period (9000 B.C. to 900 B.C.) resulting in the subdivision of time into three distinct temporal periods: Early, Middle, and Late Archaic.

During the Early Archaic period (9000 B.C. to 6000 B.C.), small mobile groups gradually became more geographically restricted as seasonally oriented hunting-and-gathering activities were focused on smaller, well-exploited territories. This sedentism can be a direct link to the expansion of the deciduous forests that produced a more favorable habitat for game species (Chapman 1975). Although hunting was the major subsistence activity, a narrow spectrum of nutritious plant foods was also utilized (Chapman 1975; Cleland 1966). This transition to the expanding food resource base is marked in the material culture by a change from lanceolate spear points, ideal for hunting larger animals, to a series of smaller, more diversified notched and stemmed projectile points, scrapers, knives, drills, and ovoid blades. Woodworking and food preparation tools first appear in the tool assemblage. These included axes, adzes, mortars and pestles, awls, gouges, and grinding stones. Sites tend to be small and scattered, limited to surface discoveries, and usually located in uplands near secondary stream valleys (Benchley 1975).

During the Middle Archaic period (6000 B.C. to 3000 B.C.), the continuing climate alteration led to a wider selection of exploitable plant foods. However, the major emphasis remained on hunting with an increasingly sedentary lifestyle (Cleland 1966). This broadening economy is reflected in the material cultural as well, which was adapted to intensive exploitation of forest and riverine environments. The Early Archaic point types were replaced mainly by slender, stemmed lanceolates. Plant-processing tools included a variety of ground stone implements, grooved axes, metates, and nutting stones. Atlatl weights are also noted, and bone tools were included in the artifact assemblage (Broyles 1971; Lewis and Lewis 1961).

A recent study has suggested that nut procurement and processing became important subsistence activities during this period. This is reflected in the presence of specialized nut-processing camps and in the frequency of nut use at other nonprocessing occupations located in floodplain and upland settings. Nuts were gathered not only to be used for food, but their shells also became a valuable fuel source, even over the use of wood (Stafford 1991).

In the Late Archaic period (3000 B.C. to 900 B.C.), the expansion of deciduous forests reached its northernmost limit (ca. 2000 B.C.), and the climate was warmer than today (Cleland

1966). A wider array of specialized objects were utilized, including steatite and sandstone bowls, stone tubes and beads, polished plummets, net sinkers, whistles and rattles, birdstones, and boatstones, as well as awls, needles, and perforators made of bone (Chapman 1975). One projectile point style characteristic of this period (and particularly common in the Muskingum drainage and the Upper Ohio Valley area) is the Brewerton series, particularly Ashtabula or Susquehanna Broad types (Ritchie 1961; Witthoft 1953). Ceremonialism increased in importance, as evidenced by more elaborate, formalized burial practices and the presence of exotic materials obtained from emerging trade networks. Scheduled harvesting of seasonally available plant and animal resources climaxed in the Late Archaic (Caldwell 1958). Coinciding with an increase in territorial permanence was the first appearance of regionally distinct, human culture groups in Ohio (i.e., Glacial Kame, Red Ochre, Old Copper) [Cleland 1966].

The first appearance of cultigens in the diet is evidenced in the Late Archaic period. Chenopodium, sunflower, and gourd seeds have been recovered and dated to approximately 1,500 B.C. from the Salts Cave site in Kentucky (Yarnell 1974), while other evidence has dated squash seed as early as 2,300 B.C. in Missouri and Kentucky (Yarnell 1993). Exploitation of local plant and animal resources, including aquatic species, becomes more efficient and broad-based in the Late Archaic period. The success of this subsistence strategy is evidenced by the recovery of charred botanical remains of a variety of nuts, including acorn, hazel, hickory, and black walnut. Fruit was also becoming an important food resource as evidenced by the diversity of fruit seeds, such as wild grape, blueberry, raspberry, and strawberry (Dye 1977; Yarnell 1974).

Woodland

Recent evidence demonstrates a continuum from the end of the Archaic through the Middle Woodland for the intensification of horticulture and the formalization and elaboration of mortuary practices (Dragoo 1976). The innovation and adaptation of these traits by human groups was not uniform but was synchronized with the perceived biological and social needs of the groups. Consequently, the rate of change in subsistence and mortuary practices varied from region to region, with some local groups maintaining Late Archaic lifestyles throughout the Late Woodland while other groups, primarily those along the main river valleys, underwent rapid transformations. The Early and Middle Woodland periods mark the beginning of mound building in Ohio.

Within the Lake Erie area, many of the hallmarks of Early Woodland classic Adena are not present (i.e., Fayette Thick and Adena pottery, conical burial mounds) in central Ohio. Identification of Early Woodland in this area is based upon the presence of early ceramic types such as Leimbach Thick, Leimbach Cordmarked, and Ohio Plain. Archaeological evidence supports the possibility that there is continuity in settlement patterns from the Late Archaic period into the Early Woodland period in northern Ohio (Pratt 1981; Stothers 1975). Studies suggest that major occupation sites were focused in riverine and lake areas during the spring and summer in order to exploit the available resources such as fishing and harvesting seasonal plants on the bottomlands. In the fall and winter, groups dispersed inland to focus on nut collecting and deer hunting.

In addition to the abovementioned pottery types and conical-shaped mounds, several projectile point/knife forms are also diagnostic of the Early Woodland period. These include Adena Stemmed points, Cresap points, and Robbins blades (Converse 1973; Dragoo 1963).

During the Middle Woodland period, the dominant manifestation in Ohio was the Hopewell culture, which lasted from 100 B.C. to A.D. 500. This culture was characterized by elaborate geometric earthworks, enclosures, and mounds, which were often associated with multiple burials and a diverse assemblage of exotic ceremonial artifacts. Ceremonially, Hopewell appears to represent a continuation of the Adena culture, albeit on a more expanded and spectacular scale (Prufer 1964). Hopewellian trade networks were extensive, and the raw materials for ceremonial objects were acquired from all over North America (Seeman 1979). Although, Mills (1914) has documented several mounds and earthworks in Cuyahoga County, specific cultural affiliations are unknown. There is growing evidence that not all Middle Woodland groups were participating in building new, elaborate mortuary earthworks, but instead were continuing to use and add to the existing Adena mounds (Aument and Wright 1991).

Most information on the Hopewell culture to date has been obtained through mound exploration. Little is known about their settlement and subsistence patterns because few habitation sites have been located and excavated. Using information from nonmound excavations, Ford (1979) has suggested a basic hunting-and-gathering economy with limited horticulture. Nuts appear to have been important, as were deer. Corn was utilized, but not as a dietary staple. On the basis of research by Dancey (1991) and Dancey and Pacheco (1992), the

evidence supports the interpretation of Hopewell habitations as dispersed agricultural hamlets associated with major earthwork complexes.

During the Middle Woodland period, large Hopewell culture centers were located in central Ohio and the Scioto River valleys of southern Ohio with a concentration in Ross County (Mayer-Oakes 1955). It has been suggested that this pattern represents a habitation shift from bluff edge to river bottoms. This shift may be connected to an increased utilization of pioneer annual seeds that were abundant on wide stream bottoms and initial attempts at horticulture. The Scioto Hopewell experienced a cultural apex ca. 100 B.C. to A.D. 500, after which they suffered a decline, the exact cause of which is unknown (Shane 1970). One theory suggests that climatic fluctuation inhibited agricultural pursuits (Baerreis et al. 1976), while another theory stresses the breakdown of territories and intergroup contacts due to the concentration on a single subsistence activity, a focal agricultural economy (Cleland 1966).

Classic Hopewell, as present in southern Ohio, does not seem to occur in northeastern Ohio, but appears to be a continuation of the Early Woodland with few major changes (Bush 1978a; Bush et al. 1988). In northern Ohio, a classic Hopewell-like Middle Woodland occupation called the Esch phase extends from the Sandusky Bay-Huron River area at the southeastern edge of Lake Erie (Brose 1974; Stothers et al. 1979) to near the mouth of the Detroit River (Greenman 1945; Pratt 1981). Ceramics from this phase resemble Wayneware from southeastern Michigan, but are more closely related to ceramics from New York Hopewell sites (Pratt 1981).

Middle Woodland regional complexes in the vicinity of the ASA, such as Wilhelm, Armstrong, Watson, and Esch, are recognized by ceramic types including Armstrong and Mahoning wares, as well as Snyders-like projectile points and bladelets/flake knives fashioned from Flint Ridge chert. Grit-tempered Mahoning ceramics exhibit plain and cordmarked surface textures. Although their highest occurrence frequency is during the Middle Woodland, they represent utilitarian ware with initial appearance in the Early Woodland and continue in use through the Late Prehistoric (Mayer-Oakes 1955). Armstrong ceramics are differentiated by the use of claystone or shale as the dominant-tempering agents, the use of which began during the Early Woodland (Hemmings 1985).

The Late Woodland period in Ohio (A.D. 500 to A.D. 900) is marked by a shift from the riverine occupation to the utilization of a variety of environmental settings. In addition,

elaborate mortuary activity and extensive trade in exotic goods declined substantially. The Late Woodland populations inhabited rockshelters in the Allegheny Plateau, floodplains along the Ohio River, and the flat, open terrain associated with the glaciated areas. Subsistence activities included hunting, fishing, gathering, and horticultural activities.

Much of what was known for Ohio Late Woodland is based on ceramic assemblages and their individual attributes of cordmarking and tempering agents (Prufer and McKenzie 1966). The central Ohio region is represented by the Cole series, a grit-tempered, cordmarked ware (Murphy 1975). Southern Ohio is characterized by the Peters series, primarily cordmarked and chert tempered, and the cordmarked and limestone-tempered Chesser series (Prufer 1975; Prufer and McKenzie 1966). For northwestern Ohio, at least four defined ceramic traditions are associated with the Late Woodland period, including Younge (Fitting 1965); Wayne (Brashler 1978); Western Basin (Prahl et al. 1976); and Sandusky (Bowen 1981).

In northeastern Ohio, the early Late Woodland phases, complexes, and cultures are poorly known in terms of their characteristics and chronologies. However, investigations at 33SU92, the Greenwood Village in Summit County have identified an early Late Woodland occupation that exhibits a great deal of local continuity with the previous Middle Woodland period, as well as similarities and influences from other regional early Late Woodland manifestations. These include Newtown-like and Watson-like pottery styles and lithic assemblages (Belovich and Brose 1992).

Today, these ceramic attribute differences are viewed as minor in comparison to the overall similarities in artifact assemblages and site layouts, which suggest cultural homogeneity for the region (Seeman 1980). Investigation of several Late Woodland sites (Church 1987; Gowan and Jackson 1995) has greatly expanded the knowledge base in regard to this time period. The Late Woodland is now defined as a time of sociopolitical and subsistence change, which laid the groundwork for the development of stratified societies and intensive agricultural production during the late prehistoric period. According to Braun (1988), the lack of stylistic complexity in both the ceramic and lithic assemblages of this period is evidence of sociopolitical change in the form of increased regional integration among villages.

Changes in the subsistence regime indicate an increased focus on naturally abundant seed plants and an intensification of their utilization and manipulation by prehistoric groups. Related changes occurred in the production of ceramics that could withstand higher cooking temperatures

and greater repetitive use, a shift toward increased regional sedentariness, a concomitant decrease in land-use area, and a simplification of the chipped stone industry. The continuation of mound construction, albeit on a lesser scale, may be seen as another indication of village integration.

These changes are evident throughout the Late Woodland period in the archaeological record. Sites dated early in the Late Woodland period consist of small, nucleated settlements, which are frequently located on bluff edges along major streams or rivers and have an encircling ditch or low earthwork feature. Ceramics are grit tempered and point types are predominantly Chesser Notched and Lowe Flared Base types. During the latter part of the Late Woodland period, nucleated communities appear to be replaced by smaller, more dispersed seasonally occupied settlements, which are variably located on terraces or floodplains, with an increased use of the uplands. Ceramics are tempered with a variety of materials, such as grit, chert, or limestone and the predominant point types include Raccoon Notched and Jack's Reef pentagonal points along with small triangular points (Church 1987). Cultivated plants occur in higher frequencies, while almost all natural food resources were utilized. Horticulture based on indigenous cultigens and squash was practiced. The subsistence strategy included collected and hunted foods that included nearly all species of edible plants and animals in the bountiful deciduous forest.

Late Prehistoric

The Late Prehistoric period in Ohio extends from approximately A.D. 900 to A.D. 1600. The Late Prehistoric period within the Muskingum drainage is represented by the Philo phase. The groups associated with the Philo phase shared traits with the Monongahela culture of eastern Ohio and Pennsylvania, and with Fort Ancient groups to the south (Carskadden and Morton 1977). To the west along the Scioto River were Fort Ancient groups. Both the Fort Ancient and Philo groups exhibit patterns of procurement and settlement patterns different from those of their Late Woodland predecessors. The Fort Ancient subsistence economy was centered on maize agriculture, with some growing of beans and squash. Both hunting and gathering supplemented the economy (Essenpreis 1978). Settlements were occupied year-round and were concentrated along the major rivers. They were typically large, stable villages, often organized around a central plaza. Houses were round, oval, or rectangular (Brose et al. 1978; Essenpreis 1978). In some cases, a circular palisade was associated with the village (Brose et al. 1978).

The Great Lakes area shows a decreased influence of Fort Ancient or Philo phase characteristics. Settlement patterns tended to be small, dispersed populations that practiced a mixed agricultural and hunter-gatherer economy. Large villages were located on promontories along the main rivers 1.5 mi to 20 mi (2.4 km to 32 km) from Lake Erie and appear to represent summer and early fall occupation. Agriculture was limited to the floodplains and adjacent terraces. During the late fall and winter, these villages were supported by family hunting camps on adjacent promontories with elk and bear hunting and nut collection the major activities. In the early spring, these villages split into small multifamily groups that occupied camps along the bluffs and beaches at the mouths of rivers or on the shores of Lake Erie, exploiting fish and waterfowl as the major food sources (Jackson and Harris 1992).

Faunal assemblages from excavated Monongahela and Philo sites indicate extensive exploitation of deer as well as elk and turtle (Brown 1981; Carskadden and Morton 1977). Although corn has been found at sites from both cultural groups, it occurs in a lower frequency when compared to Fort Ancient sites.

In northeastern Ohio, the Late Woodland population also accepted certain Upper Mississippian traits, and their culture developed into what is known as the Whittlesey tradition. This Late Prehistoric complex is distinct from the Mississippian cultures found to the south and west. As summarized by Noble (1988), the Whittlesey tradition has been divided into five phases: Hale, Riverview, Fairport, Greenwood, and South Park.

The Hale phase, ca. A.D. 600 to A.D. 900, is primarily defined by a predominance of grit-tempered Cuyahoga cordmarked ceramics, although other grit-tempered ceramic styles are also associated with this phase. Heat alteration at late stages of lithic tool manufacture is another characteristic of the Hale phase. Site and tool assemblages indicate that occupations were seasonal and for special purposes, and the subsistence strategy included little or no horticulture with an emphasis on a diffuse economy of hunting and gathering (Noble 1988).

The Riverview phase, ca. A.D. 900 to A.D. 1150, is characterized by Fairport Plain ceramics, although other grit-tempered ceramic types exist. Sites from this period indicate seasonal habitation patterns and an increased emphasis on cultigens (Noble 1988).

The Fairport phase, A.D. 1150 to A.D. 1350, is defined by its distinctive ceramics. During this phase, shell tempering occurs and Fort Ancient ceramics are introduced. Fairport ceramics exhibit plain, smooth, or simple stamped exterior surfaces. The seasonal habitation

pattern becomes firmly emplaced, with small winter camps in the uplands and large summer villages at riverine and lacustrine sites (Noble 1988).

The Greenwood phase, A.D. 1350 to A.D. 1500, is primarily identified by the smaller amount or absence of Fort Ancient ceramics and a marked distinction between the lithic assemblages at the winter camps and at the summer villages. There is also an increase in population and a greater dependence on cultivated crops. Some of the upland sites are fortified with earthen embankments (Noble 1988).

The South Park phase, A.D. 1500 to A.D. 1640, shows a continued decline in exotic ceramics. More specific preferences for lithic sources develop and most lithic reduction occurs at the village sites. In addition to the seasonal camps and villages, typical of the habitation patterns of the previous phase, fortified year-round agricultural villages, some containing log houses, begin to appear. ~~I~~mportantly there is no archaeological evidence for aboriginal occupation of northeastern Ohio during the early period of European contact" (Noble 1988:15).

Protohistoric

Around A.D. 1550, late prehistoric groups in western Pennsylvania procured materials that indicate an indirect contact with European settlers (Herbstritt 1983). These materials include wire-wound faceted beads, copper tinklers, and native-manufactured artifacts such as triangular glass and metal pendants made from imported European goods. In contrast to later sites, there is no change in intrasite patterning of subsistence procurement strategy. Recognition of protohistoric sites is based solely on the occasional occurrence of European trade items (Skinner and Brose 1985). This influx of trade items is documented in the Middle Ohio Valley ca. A.D. 1650 to A.D. 1750 at two contact period sites in Greenup County, Kentucky (Pollack and Henderson 1983). The difficulty in recognizing these sites, given the limited change in the material culture, undoubtedly has resulted in the lack of proper protohistoric designations. Throughout this period, northeastern Ohio was only sparsely populated by transient aboriginal populations, often geographically and culturally displaced from other areas (Jackson and Harris 1992).

ARCHAEOLOGICAL LITERAURE REVIEW

Before an effective archaeological survey can be conducted, it is necessary to have an understanding of the environmental setting, the prehistory and history within that environment, and any previous research in the region. With this information it is possible to develop research questions pertaining to prehistoric and early historic settlement patterns in the region. This may be utilized to guide fieldwork and the interpretation of any cultural remains that might be encountered, and to preliminarily evaluate their NRHP eligibility.

Alan Tonetti of ASC examined the following sources at the OHPO in Columbus:

- Online Geographic Information System (GIS) system (www.ohpo.org/gis/login.cfm);
- National Historic Landmark list;
- NRHP preliminary and consensus determination of eligibility lists;
- Inactive NRHP nomination forms;
- NRHP questionnaires;
- NRHP drafts/post-Ohio Historic Site Preservation Advisory Board draft nomination forms;
- USGS 7.5′ and 15′ topographic maps associated with the Ohio Archaeological Inventory (OAI);
- OAI forms;
- Contract archaeology reports;
- *Archeological Atlas of Ohio* (Mills 1914); and
- *Ohio Cemeteries: 1803–2003* (Troutman 2003).

PREVIOUSLY DOCUMENTED CULTURAL RESOURCES AND ARCHAEOLOGICAL INVESTIGATIONS

No National Historic Landmarks are present within the ASA. There are seven properties listed in the NRHP and one determined eligible for listing within and immediately adjacent to the ASA (Figure 2, Sheets 1 and 2; Table 1). Three, St. Elizabeth's Magyar Roman Catholic Church, the Cleveland Club/Tudor Arms, and the Woodland Recreation Center/Woodland Avenue Bathhouse, are extant and entirely within the ASA. The Weizer Building is also within the ASA, but has been demolished. The Temple, which is extant, and the Peerless Motor Company Plant No. 1, which has been demolished, are partially within and adjacent to the ASA. All of these properties were nominated based on architectural and social significance. The northeast corner of Woodland Cemetery is within a portion of the ASA that extends northwest of the main part of the project along the Conrail tracks. It is not clear if the ASA encompasses a part of the cemetery grounds that contains graves. The northern terminus of the ASA extends into the Wade Park Historic District. Six contributing elements to the district are located entirely

or partially within the ASA and they include: The Temple (also listed individually), the Fine Arts Garden and Lagoon, Fourth Church of Christ Scientist, Park Lane Villa, Wade Park Manor, and Epworth-Euclid Church, all of which are extant. Although not recorded at present, there are almost certainly archaeological deposits associated with all of these properties, some of which could possess sufficient integrity to be considered significant or contributing elements.

The Cleveland Landmarks Commission [2009] maintains a list of Designated Cleveland Landmarks (DCL) that contains various buildings and districts they consider locally important. Woodland Cemetery and all the extant buildings within the ASA that are individually listed in the NRHP are also DCLs (Table 1). The Fourth Church of Christ Scientist is a contributing element of the Wade Park District that has been included as a DCL under the name Pentecostal Church of Christ. The Fine Arts Garden and Lagoon, also a contributing element of the Wade Park District, is included as part of the Cleveland Museum of Art as a DCL. Two other DCLs are present within the ASA that are not listed on the NRHP. They are Parkside Dwellings and the Baldwin Reservoir and Grounds, only a small part of which is within the ASA.

Troutman (2003:143–144) indicates that there are three cemeteries within the ASA: Woodland, Saint Josephs [*sic*], and Doan[']s Corner[s]. Woodland Cemetery is a large cemetery located between East 66th Street and East 71st Street and extending north from Woodland Avenue to Quincy Avenue, encompassing 55.4 ac (22.4 ha). It was established in 1852 and is currently active, containing more than 87,500 graves. Woodland Cemetery is listed in the NRHP and is a DCL. Saint Joseph Cemetery, which encompasses 12.5 ac (5.1 ha) and is located at the southeast corner of the intersection of Woodland Avenue and East 79th Street, was established in 1849 and is currently active. It contains more than 18,000 burials, although some were moved to Woodland cemetery and Calvary cemetery. Doan's Corners cemetery is associated with the nineteenth-century village of the same name that once existed at the intersection of Euclid Avenue and East 105th Street. The precise location is not recorded by Troutman (2003), but he does indicate that the graves were moved to Lake View cemetery and East Cleveland cemetery. Barrow (1997) includes a copy of 1930 map depicting Doan's Corners ca. 1857 as Charles Asa Post recalled it. The Barrow (1997) map shows the cemetery on the west side of East 105th Street (then Church Street and later Doan Street) in the second lot north of Euclid Avenue (Figure 4). This location is now occupied by the Ronald McDonald House.

Mills (1914) depicts many mounds and other sites within Cuyahoga County, most of which are along the major drainages. There is a concentration of mounds and geometric earthworks along the Cuyahoga River that extends about 8 km (5 mi) inland from Lake Erie. A mound is depicted at the confluence of Kingsbury Run and the river (Figure 2, Sheet 1). The location depicted by Mills (1914) is on the bluff edge about .6 mi (1 km) west of the ASA's western terminus. The location of the mound does not appear to have ever been ground truthed. Mills also records various Native American trails in the state. One is depicted crossing the Cuyahoga Valley between Ottawa Town and Saguin's trading post. Saguin was a French trader who is the earliest recorded Euro-American resident of the county. Shetrone and Sherman (1919) also depict Ottawa Town and this trail along with another trail extending north from the river crossing to the mouth of the Cuyahoga River at Lake Erie. The locations of Ottawa Town and Saguin's are not precisely known, but have been estimated to be somewhere near Tinkers Creek, possibly as far down the Cuyahoga River as Brooklyn Heights (Brose 1997). In either case, this is well south of the project. However, the exact location of the trail along the river is unknown and it could have crossed the ASA near its western terminus.

There are two inventoried sites (33CU323 and 33CU498) within the ASA and seven more nearby (Figure 2, Sheets 1 and 2; Table 2). Site 33CU323 consists of refuse from a hotel that once existed in Doan's Corners. The remains are in a very disturbed area along the south side of Euclid Avenue. Site 33CU323 is the remains of a late nineteenth to late twentieth-century house in a neighborhood along the bluff where Kingsbury Run cuts into the Cuyahoga River valley. The surface layers at both of these sites are disturbed and mixed with modern materials. Three similar sites (33CU495–33CU497) were recently documented by Klinge and Bankowitz (2006) about .8 mi (1.35 km) south of the ASA. They are all twentieth-century residential sites that are highly disturbed and contain modern material. There are four sites along Doan Brook between about 650 ft and .8 mi (200 m and 1.35 km) south of the ASA. One (33CU196) is a small area of late nineteenth-century industrial material, but the other three (33CU72, 33CU73, and 33CU86) are prehistoric sites. They are all located in a relatively intact area of parkland along the small valley. A personal communication from David Brose reported by Lee (1985) indicates that the OAI forms contain incorrect UTM coordinates for 33CU72 and 33CU73, which have not been corrected. The site locations and coordinates reported here have been corrected accordingly and OHPO was advised of the discrepancies.

Ten archaeological surveys have been undertaken within or adjacent to the ASA: Bush (1978b), Brose and Lee (1985), Lee (1985), Blanton (1998), March et al. (1998), Snell (1998), Perrotta and Gibbs (2000), Mustain (2000), Mustain et al. (2006), and the Euclid Corridor Improvement Project for which numerous reports were written (most addressing history/architecture resources) [Figure 2, Sheets 1 and 2]. Bush (1978b) was a survey for a proposed I-490 project extending the highway to the southeast, connecting the I-490 interchange with I-77 to the Broadway Road exit on I-480, which was never built. The western end of that project encompasses much of the ASA's western terminus from the I-490 Bridge to the CSX railroad tracks southwest of Buckeye Road. No sites were documented during the Bush (1978b) survey.

Brose and Lee (1985) produced a historic site and preservation model that they evaluated through selective archaeological testing in the Hough neighborhood. The east edge of their project area extended to East 105th Street and encompassed part of the ASA's northern terminus (Figure 2, Sheet 2). The model was designed to identify urban areas with a high probability of yielding significant historic archaeological data. It was based on a numerical ranking system that is an attempt to quantify the cumulative effects of changing land use by taking into account land use during seven different time periods. They assigned numerical values based on the likelihood of the land use depositing significant remains or destroying any that might be present for each time period and summed them to arrive at an overall value reflecting archaeological potential. Lee (1985) examined a small project area at the base of Cedar Hill, near University Circle (Figure 2, Sheet 2). He applied this model, which indicated a very low potential, and tested the area confirming these expectations. He found only mixed historic debris in a disturbed context.

The Brose and Lee (1985) model was further refined by Lee et al. (1987) and applied to an urban areas similar in nature to the ASA. Although their project area is not within or adjacent to the ASA, it is useful to mention their expansion of the model to include the definition of what they termed "windows." These are areas where buildings with deep basements have never existed. By considering the rank-sum value of the lot in the context of the window it allowed them to focus more narrowly on specific areas of interest and better estimate the likelihood that significant remains were or were not present. Archaeological testing associated with these projects identified two NRHP-eligible properties (Irishtown Bend Archaeological District and East Cuyahoga Valley Wall Preservation Window) along with numerous other residential,

commercial, and light industrial sites. However, it does not appear that any sites were entered in the OAI.

Blanton (1998), March et al. (1998), and Snell (1998) are three of more than a dozen small projects associated with the Norfolk-Southern Railroad infrastructure improvements across northern Ohio. Blanton's (1998) project is located along the east side of the railroad tracks adjacent to the part of the ASA extending along the tracks south of the main corridor (Figure 2, Sheet 2). March et al. (1998) reported on two narrow corridors at the southeast corner of the ASA (Figure 2, Sheet 2). Snell's (1998) project area had two separate areas, the northwestern of which is adjacent to the ASA along East 55th Street near its western terminus (Figure 2, Sheets 1 and 2). All of these projects were field reviews that documented the highly disturbed nature of the areas along and adjacent to the railroad tracks. No archaeological testing was performed by any of them and they all concluded that there are no significant archaeological sites in their project areas due to the disturbance of industrial development.

Perrotta and Gibbs (2000) and Mustain (2000) reported on the findings of background research and a disturbance assessment for the Bessemer Avenue extension project one to two blocks south of the ASA along East 55th Street (Figure 2, Sheets 1 and 2). Perrotta and Gibbs (2000) documented several previously conducted surveys and 91 previously inventoried buildings and structures, three of which are listed on the NRHP, but no previously inventoried archaeological sites. They concluded that the potential for identifying early buildings and structures was very high. Mustain (2000) completed a disturbance assessment of the project area and found it to be completely disturbed. Based on this, it was determined that no archaeological sites would be impacted by the proposed construction and no further archaeological work was recommended.

Mustain et al. (2006) completed a Phase I cultural resources survey for the proposed East 55th Street station. It is located along the east side of East 55th Street within the ASA (Figure 2, Sheet 1). One surface site (33CU490) associated with a ca. 1913–1980 razed house was documented. The surface deposits were not deemed significant. Design plans had not been finalized at the time of the survey. It was recommended that mechanical stripping in the area of the site and a paved lot thought to contain similar remains be carried out once it had been determined where exactly the project's impacts would be located.

Gray & Pape, Inc., completed cultural resources research for the Euclid Corridor project, which extended from downtown Cleveland to University Circle, crossing the ASA along Euclid Avenue near the ASA's northern terminus. A series of working, draft, and final reports were produced and submitted to OHPO, four of which pertain to the archaeology study. Following the lead of David Brose and Alfred Lee, their research involved the development of a model for predicting the likely occurrence of archaeological sites that built on the earlier Brose and Lee (1985) and Lee et al. (1987) model. The modeling involved examining cartographic sources and assigning rank-sum values as outlined by Walsh et al. (2000), the initial stages of which were implemented by Miller (2001). The final stages involved a detailed records search for properties of interest based on which recommendations about fieldwork were based. Miller (2001) identified five areas with archaeological potential that would be directly affected by the Euclid Corridor project for detailed records. Hughey and Miller (2001) compiled and analyzed data on these properties and recommended field work on one of them. Subsequently, 33CU500, a historic residential site associated with row houses built along Prospect Avenue between East 17th and East 18th streets in the 1880s, which is well outside the ASA, was excavated. It was determined eligible for inclusion in the NRHP and the projects effects were mitigated through Phase III data recovery excavations (Bryant 2007).

There was certainly prehistoric activity in the vicinity of the ASA. However, the level of historic disturbance makes it unlikely that any evidence of it has survived to the present. Undoubtedly there are historic archaeological deposits within the ASA. The model developed by Brose and Lee for the various studies the conducted indicates that the most likely places for significant remains are outside of the areas that have been disturbed by buildings with deep basements, but there are numerous other factors that play a role in the deposition and preservation of deposits capable of yielding important information. Historic site types most likely to be encountered are residential, commercial, and industrial, but there are also probably social, religious, educational, and recreational sites. A detailed examination of early cartographic sources will be the most effective means of determining the types of sites likely to be encountered and possibly where they will be best preserved.

HISTORIC MAP REVIEW

The Opportunity Corridor archaeological study area (ASA) is in eastern Cleveland, extending between the eastern terminus of I-490 and University Circle (Figures 1–3). A review of historic maps and atlases was undertaken to chart the urban development within the ASA over the last century and a half. This review will then be compared with the data from the literature review and information on previous archaeological investigations in the city to predict the types of sites anticipated within the ASA and to project where potentially significant archaeological sites may persist. The following maps and atlases were included in the review:

- *Map of Cuyahoga County, Ohio* (Blackmore 1852) [Figure 5],
- Charles Asa Post's 1930 map of ca. 1857 Doan's Corners (Barrow 1997) [Figure 4],
- *Map of Cuyahoga County, Ohio* (Hopkins 1858) [Figure 6],
- Map of Doan's Corners in *Map of Cuyahoga County, Ohio* (Hopkins 1858) [Figure 7],
- *Atlas of Cuyahoga County, Ohio* (Lake 1874) [Figure 8, Sheets 1–5],
- *City Atlas of Cleveland, Ohio* (Hopkins 1881) [Figure 9, Sheets 1–8],
- *Atlas of Cuyahoga County and the City of Cleveland, Ohio* (Cram et al. 1892) [Figure 10, Sheets 1–12],
- 1896 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery [EDR] 2009) [Figure 11],
- 1903 Cleveland quadrangle and 1903 Euclid quadrangle (USGS 15′ topographic maps) [Figure 12],
- 1913 Sanborn Fire Insurance Company map of Cleveland (EDR 2009) [Figure 13],
- 1951 Sanborn Fire Insurance Company map of Cleveland (EDR 2009) [Figure 14],
- 1963 Sanborn Fire Insurance Company map of Cleveland (EDR 2009) [Figure 15] and,
- 1973 Sanborn Fire Insurance Company map of Cleveland (EDR 2009) [Figure 16].

This is not an exhaustive list of the maps of the area and most of the Sanborn maps do not show the entire ASA. However, this collection is sufficient to document the general trends of development. Blackmore's (1852) map is the earliest map included because it is the first to show more than just the very western end of the ASA (Figure 5). It should also be noted that the scale of the USGS 15′ topographic maps is such that building locations are only generally indicated in the built-up urban area containing the ASA (Figure 12). They are useful for depicting the layout of the roads, topographic relief, and original drainage patterns, but information about the

buildings shown on these maps will not be included in the detailed discussion of the ASA that follows.

The ASA has been divided into 11 areas to facilitate the discussion of its development (Figure 3). The extent of these areas were determined based on historic topographic features and longstanding manmade geographic features like railroad tracks and main roads. However, they may not have any cultural relevance. The western portion of the ASA is dissected into several points of land above Kingsbury Run and three of its unnamed tributaries. These natural breaks in the landscape were used as boundaries for Areas 1–7. For the purposes of this report the westernmost stream, which once flowed along the east side of East 51st Street and appears to have been completely buried, will be referred to as the West Branch; the northern stream that flowed along the north side of the Conrail tracks and joins Kingsbury Run about (250 m [820 ft]) west of Kinsman Avenue will be referred to as the North Branch; and the stream northeast of Colfax Avenue, which flowed along the modified ravine containing the tracks for the Shaker line of the Greater Cleveland Rapid Transit Authority (RTA) will be referred to as the Colfax Branch. Areas 4 and 7 and Areas 5 and 6 were divided by railroad tracks that have been present since before 1852 (the earliest map consulted). Areas 8–10 were divided along major roads that separate different street grid patterns. Area 11 was defined to encompass the early village of Doan's Corners and later University Circle.

The earliest two maps (Blackmore 1852; Hopkins 1858) do not show much detail and no buildings (Figures 5–7) so the ASA will be discussed as a whole rather than the 11 individual areas. The detail of the Lake (1874) [Figure 8] atlas and the subsequent cartographic sources examined make it useful to discuss smaller portions of the ASA to trace differences in local development as the City of Cleveland expanded dramatically in the last decades of the nineteenth century. A series of Ohio Department of Transportation (ODOT) aerial photographs (1963, 1973, 1986, and 1999) as well as satellite imagery available on the internet (Google and MapQuest) were also examined to look at these areas in detail. The earlier aerial photographs were somewhat useful for showing areas not covered by the 1963 and 1973 Sanborn maps, but in general the major development within the ASA over the last 50 years has occurred near University Circle, and to a lesser extent at the ASA's western terminus. Current imagery that serves as the base of Figure 3 adequately reflects the substantial construction, demolition, and

redevelopment that has occurred within the ASA over this period of time so earlier aerial photographs are not included as images in this report.

On the Blackmore (1852) map the ASA appears to be large lots (ca. 25 ac–100 ac [10 ha–40 ha]) that have not been subdivided (Figure 5). Most of the major roads are depicted including Kinsman Road, Woodland Avenue/Buckeye Road (parts of the same road), Woodhill Road, East 107th Street/Stokes Boulevard, East 105th Street, Cedar Avenue, and Euclid Avenue, but none of historic or modern side streets are shown. The Conrail Railroad (C. & P. R. R.)[3] is the only railroad on the map. The NRHP and DCL Woodland Cemetery (Figure 2, Sheets 1 and 2; Table 1) is shown and labeled as "New Cemetery." The village of Doan's Corners is depicted and labeled at the intersection of East 105th Street and Euclid Avenue. There are few details of the buildings within the village, but the depicted property bounds do reflect smaller lots consistent with the centralized residential and minor commercial construction typical of small towns and communities.

Barrow (1997) included a map of Doan's Corners in his Master's thesis that Charles Asa Post produced in 1930 of what he remembered of the village as it existed ca. 1857 (Figure 4). Post's map shows a few more streets and slightly different lot lines, but matches the earlier map fairly well. Importantly it indicates three churches and a cemetery, two schools, a blacksmith shop, a wagon shop, a tavern, several stores, the quarry railroad (built in 1834 and 1835), an old mill pond, several barns, numerous houses, and fields and orchards. Doan's Corners was clearly a thriving small community in the mid-nineteenth century.

Hopkins (1858) also has Doan's Corners labeled (Figure 6). This map does show houses and contains a detailed map of Doan's Corners (Figure 7). The larger scale map shows some changes to the ASA. The Conrail tracks at the ASA's western terminus are the most significant new feature shown on the map. The roads largely followed the same alignments and most of the lots remained unchanged. However, subdivisions are depicted to the north and south of the ASA's western terminus that were not present on the earlier map. Houses are shown along Kinsman Road, Woodland Avenue/Buckeye Road, and Euclid Avenue, but the area was not densely occupied. The detailed map of Doan's Corners has lot lines and road alignments similar to the two earlier maps, but shows more houses that Post indicated. The Hopkins (1858) map

[3] Modern names are used in this text. Historic place names on maps in this review, will are included in parenthesis following the modern name.

does show the churches at the intersection of Euclid Avenue and East 105th Street (Doan Street) but not the cemetery. The directory lists a wagon maker, two blacksmiths, a cobbler, a cooper, a creamery, and an iron works. Generally, prior to the Civil War the ASA was a semi-rural residential area on the outskirts of Cleveland with a concentration of buildings within the village of Doan's Corners at its northern limit.

AREA 1

Area 1 is located at the ASA's western terminus. It encompasses what was historically a small area of high ground above the confluence of Kingsbury Run and its West Branch and parts of the adjoining valley floors (Figures 3 and 12). The Lake (1874) atlas shows the Conrail (Cleveland, Mahoning, Atlantic, and Great Western) tracks along the west end of Area 1 and depicts the high ground west of East 51st Street (Sawtell Avenue) as completely subdivided (Figure 8, Sheet 1). That map does not show any buildings, however. Larger lots are depicted along the valley floor, suggesting differences in land use between the uplands and the lowlands. The smaller lots most likely contained residential buildings, while industrial concerns were situated on the valley floor.

In 1881, the Conrail (New York, Pennsylvania, and Ohio Rail Road) tracks have a new name, but the roads and lot lines are the same. The high ground is totally subdivided and about half the lots have buildings on them (Figure 9, Sheet 1). By 1892, they were about 90 percent full, and by 1913, residential development had reached its peak and buildings were spreading to the bottom of the hill (Cram et al. 1992; EDR 2009) [Figure 10, Sheet 1; Figures 12 and 13]. The Conrail (New York Central and Saint Lewis Rail Road [N.Y.C.&St.L. R.R.]) tracks along Kingsbury Run and its North Branch first appeared on the Cram et al. (1892) atlas (Figure 10, Sheet 2). The high ground in Area 1 appears to have remained residential until the mid-twentieth century, as all but four of the buildings depicted on the 1951 Sanborn map (EDR 2009) are residential (Figure 14). This pattern persisted until ca. 1973 when the I-77 and I-490 exit was built along the north side of the high ground and the northern half of the neighborhood was destroyed. The valley floor along Kingsbury Run was primarily occupied by railroad tracks. Although it is not clear when it occurred, ODOT aerial photography indicates that the West Branch of Kingsbury Run was completely buried by 1963, probably having been so sometime after 1951.

Area 1 was primarily a residential area on high ground above valley floors. One of the stream channels was filled in but the others were used as railroad corridors since the end of the nineteenth century. The residential neighborhood survived until the late twentieth century. It has declined substantially since a highway exit destroyed the north half of the high ground within Area 1.

AREA 2

Area 2 encompasses a relatively wide area of high ground bounded to the north and east by Kingsbury Run and to the west by the West Branch of Kingsbury Run along with portions of the adjacent valley floors (Figures 3 and 12). Site 33CU498, the remains of a ca. 1913–1980 house, is located within the ASA along the bluff edge above Kingsbury Run a short distance east of East 55th Street (Figure 2, Sheet 1; Table 2). The Lake (1874) atlas depicts the Cleveland and Newburgh Dummy Railroad, which followed the bluff edge northeast of East 64th Street (Herbert Street) across the Kingsbury Run valley and continued north along Kinsman Avenue (Figure 8, Sheet 1). Started in 1868, it was the first city transit powered by something other than a horse; it ran a two-car trolley powered by a steam engine that operated until 1877 (Van Tassel and Grabowski 1998).

Similar to Area 1, the high ground in Area 2 was divided into smaller, likely residential lots, and larger lots were present along the drainages, although the area west of East 55th Street (Wilson Avenue) had no streets and was not subdivided until after 1881 (Cram et al. 1892; Hopkins 1881; Lake 1874) [Figure 8, Sheet 1; Figure 9, Sheets 2 and 3; Figure 10, Sheets 1–3]. By 1892, about half of the lots east of East 55th Street (Wilson Avenue) were full but most of the lots along East 55th Street (Wilson Avenue) and all of the lots west of that street were vacant (Cram et al. 1892) [Figure 10, Sheets 1 and 3]. By 1913, the empty spaces had been filled and residences were present on nearly all the lots of the high ground except for a single saloon (EDR 2009) [Figure 13]. There is still no development shown on the larger lots along the drainages except the Conrail (N.Y.C.&S^{t}.L. R.R.) tracks along Kingsbury Run and its North Branch, which first appear on the Cram et al. (1892) atlas and a small brick yard shown by Hopkins (1881) [Figure 9, Sheet 3; Figure 10, Sheets 1–3].

By 1951 a few stores were mixed in with the residences and the previously undeveloped lots along East 55th Street contained small manufacturing facilities (EDR 2009) [Figure 14]. By 1973, there was a little more diversity in the area and some stores and small businesses were

located along the east side of East 55th Street and a bank stood at the corner of East 61st Street and Francis Avenue (EDR 2009) [Figure 16]. ODOT aerial photographs indicate that although the few residences west of East 55th Street were replaced by commercial or industrial buildings, nearly all of the houses on the residential high ground west of 55th Street survived until after 1999 and current satellite imagery shows it much the same as it was a decade ago.

Although there was some light manufacturing along East 55th Street, the high ground within Area 2 was primarily a residential area until the middle of the twentieth century when manufacturing and small business expanded on East 55th Street and the highway exit ramp destroyed the northern part of the landform. Development along the valley floors along Kingsbury Run was almost exclusively associated with the railroads and the West Branch of Kingsbury Run was buried over ca. 1963. However, more than probably any other portion of the ASA, the residential neighborhood east of East 55th Street has remained intact.

AREA 3

Area 3 encompasses a narrow point of land between Kingsbury Run and its North and Colfax Branches and the adjacent valley floors (Figures 3 and 12). Kinsman Road runs down the center of the landform and the ASA extends northwest and southeast of the main part of the corridor along it. The Lake (1874) atlas indicates that all of the high ground south of the North Branch of Kingsbury Run and all the area north of it had been subdivided into lots by that point (Figure 8, Sheets 1 and 2). There are larger lots along much of the valley floors, but there are also substantial parts of them, particularly northeast of Kinsman Road (Kinsman Street) and Colfax Avenue, that were covered with smaller city lots. By 1881, about a quarter of the lots contained buildings, and by 1892, about 90 percent of them were occupied by what appear to be residences (Cram et al 1892; Hopkins 1881) [Figure 9, Sheets 2 and 3; Figure 10, Sheet 3].

The Cram et al. (1892) atlas (Figure 10, Sheet 3) is the first map that shows the Conrail (N.Y.C.&S^{t}.L. R.R.) tracks along Kingsbury Run and its North Branch. Although some larger buildings are shown north of the ASA along Kinsman Road the first industrial building in Area 2 is shown on the 1896 Sanborn (EDR 2009) [Figure 11]. By 1913, there was some industrial development and a large school along Kinsman Road on the north side of the Conrail (N.Y.C.&S^{t}.L. R.R.) tracks (EDR 2009) [Figure 13]. Things remain largely unchanged until the 1973 Sanborn map (EDR 2009) [Figure 16] which indicates a Cleveland Municipal Housing Authority (CMHA) public housing facility along Kinsman Road at East 70th Street that replaced

about 20 single- and multi-unit dwellings. A handful of stores, a church, and the RTA (Cleveland and Youngstown Rail Road [C.&Y. R.R.]) tracks along the Colfax Branch of Kingsbury Run are also depicted on that map (Figure 16). The C.&Y. R.R. is indicated as an electric railroad (EDR 2009) [Figure 16]. The ODOT aerial photos indicate that by 1986 about a third of the houses on the high ground have been razed and by 1999 more than half of them are gone, as are all of the few that were along Kinsman Road north of the Conrail tracks.

The pattern of small, subdivided lots and a largely residential area on the high ground surrounded by larger lots through which railroad tracks are eventually built continued in Area 3. There was some industrial development along the Conrail (N.Y.C.&S^{t}.L. R.R.) tracks, institutional development (CMHA housing and the school), and commercial development, but except for on the valley floors where the tracks were built, Area 3 is and has been primarily residential.

AREA 4

Area 4 is bounded by the Colfax Branch of Kingsbury Run and the RTA Shaker line tracks to the south and west, the North Branch of Kingsbury Run and the Conrail tracks to the north, and another set of Conrail tracks to the east (Figures 3 and 12). There is also a long extension of the ASA to the south of the Conrail tracks that form its eastern boundary. It is the west end of an area of high ground above the confluence of the North and Colfax Branches of Kingsbury Run that has been cut off from the uplands (lake plain) at the base of the Portage Escarpment by railroad tracks since early in the nineteenth century. The area also includes portions of the valley floors along the adjacent drainages.

The Lake (1874) atlas indicates that most of the high ground had been subdivided into small lots but showed some larger lots (ca. 4 ac–10 ac [2 ha–4 ha]) primarily along or including parts of the adjacent valley floors (Figure 8, Sheets 2 and 3). By 1881, some of the larger lots had been subdivided, but many still remained along the drainages (Hopkins 1881) [Figure 9, Sheets 3–5]. At that time about 75 percent of the lots west of East 79th Street (Madison) had houses on them, but only about a dozen houses are shown east of East 79th Street (Madison).

The beginnings of industrial development along the Conrail (Cleveland and Pittsburgh Rail Road [C.&P. R.R.]) tracks in the form of a wire fence company and oil works are shown on the Hopkins (1881) atlas. At that time, the residential lots continued to fill (more so west of East 79th Street) with single-family dwellings, but stores and churches began to appear on the maps

(Cram et al. 1892; EDR 2009) [Figure 10, Sheets 3–5; Figures 11 and 13–16]. The residential area was generally restricted to south of Grand Avenue and west of East 83rd Street.

The 1913 Sanborn map (EDR 2009) indicates that both churches in the residential area are Hungarian (Figure 13), but by 1951 they are no longer designated as such (Figure 14). By 1951, East 79th Street was lined with stores and restaurants that persisted until ca. 1973 (EDR 2009) [Figures 14–16]. However, ODOT aerial photographs from 1986 and 1999 show a steep decline in the residential neighborhood, as numerous houses were demolished under the auspices of urban renewal during the late 1970s and early 1980s. At present there are almost no houses in Area 4 (Figure 3).

The Cram et al. (1892) atlas (Figure 10, Sheets 3–5) is the first map to show the Conrail (N.Y.C.&St.L. R.R.) tracks along the North Branch of Kingsbury Run. The area north of Grand Avenue along these tracks and south along the other Conrail (C.&P. R.R./Pennsylvania Rail Road [PENN. R.R.]) tracks became increasingly industrial over time (Cram et al. 1892; EDR 2009) [Figure 10, Sheets 3–5; Figures 11–16]. The industrial development consists primarily of large buildings associated with the iron, steel, and oil businesses that dominated Cleveland's industry in the first half of the twentieth century. The RTA Shaker line (C.&Y. R.R.) tracks along the Colfax Branch of Kingsbury Run first appear on the 1963 Sanborn (EDR 2009) [Figure 15] but there was significantly less intensive development along those tracks. Presumably this is a reflection of the functional difference between the freight service on the previous tracks and the electric passenger trains that traveled along the RTA tracks. The heavy industry extended south of the RTA tracks

Area 4 contains a distinct residential area fringed by heavy industry along the railroad tracks on its north and east boundaries. There are some indications, particularly in the cultural institutions like churches, that it contained a Hungarian community in the early twentieth century. However, by the 1970s it appears to have ceased functioning as a viable neighborhood and most of the houses in the area have been razed. At the end of the nineteenth century, heavy industry (steel, iron, and oil) started developing and eventually extended all along the railroad tracks on the north and east boundaries of Area 4 and along the tracks south of the RTA Shaker line.

AREA 5

Area 5 is north of the Conrail tracks along the North Branch of Kingsbury Run and is bounded by East 75th Street to the west and another set of Conrail tracks to the northeast (Figures 3 and 12). An extension of the ASA follows the train tracks to the northwest. It is predominantly high ground but includes a little of the stream valley along its southern edge. Lake (1874) shows a mix of large lots and subdivided areas with side streets (Figure 8, Sheet 2). At most, approximately half of these lots contained houses (Cram et al. 1892; EDR 2009; Hopkins 1881) [Figure 9, Sheets 3 and 5; Figure 10, Sheets 3, 6, and 7; Figures 11 and 13–16]. However, the residential character of this area changed early, and houses on these lots were being removed as early as 1896 (EDR 2009). Currently, there are no houses in Area 5. Lake (1874) shows a large prison on the south side of Woodland Avenue at its intersection with the Conrail (C.&P. R.R.) tracks (Figure 8, Sheet 2). It remained a prison for another 10–15 years before becoming a workhouse and house of refuge and was eventually taken over by the city water department in the mid-1890s, who used it until sometime after 1913 (Cram et al. 1892; EDR 2009; Hopkins 1881) [Figure 9, Sheet 3; Figure 10, Sheet 6; Figures 11 and 13]. By 1951, the same property was being used for public housing, first as temporary war housing and eventually as a CMHA housing project that is still in use (EDR 2009) [Figures 14–16]. The NRHP and DCL Woodland Cemetery (Figure 2, Sheets 1 and 2; Table 1) is adjacent to the Conrail tracks at the north end of the extension where the tracks cross Woodland Avenue. Except for Hopkins (1858), it is shown on all the historic maps depicting this area that were consulted (Figures 5 and 6; Figure 8, Sheet 2; Figure 9, Sheet 3; Figure 10, Sheets 6 and 7; Figures 11–14, and 16).

Although there was some early residential use of Area 5 and there are several examples of public use (the cemetery and housing projects), this is primarily an industrial and manufacturing area along the railroad tracks. As previously noted, the Conrail (N.Y.C.&St.L. R.R.) tracks along the North Branch of Kingsbury Run first appeared on the Cram et al. (1892) atlas and appear to be the only development on the valley floor (Figure 10, Sheets 3 and 6). The industrialization of the area started with an iron works first shown on Hopkins (1881) [Figure 9, Sheet 3] and it is not until the 1999 ODOT aerial photograph that signs of industrial decline (i.e., some of the building along the tracks have been razed) appears in the area.

AREA 6

Area 6 is a small area south of Woodland Avenue bounded by two sets of Conrail tracks, one along the North Branch of Kingsbury Run. The area encompasses mostly high ground but also includes a small section of valley floor. It is in approximately this area the North Branch of Kingsbury Run begins and there was likely little more than a narrow ravine at its headwaters rather than a proper valley floor. The west half of Area 6 is occupied by Saint Joseph Cemetery, which first appears on the Lake (1874) atlas and is on all the subsequent maps consulted except the 1903 Cleveland quadrangle (USGS 15′ topographic map) [Figure 8, Sheet 2; Figure 9, Sheet 5; Figure 10, Sheet 4; Figures 11 and 13–16. Lake (1874) shows a large lot and a handful of smaller properties along Buckeye Road (South Woodland Avenue) east of the cemetery (Figure 8, Sheet 2). The large lot east of the cemetery held a pond and ice house in 1881 and became more residential until sometime before 1951 (Cram et al. 1881; EDR 2009; Hopkins 1881) [Figure 9, Sheet 5; Figure 10, Sheet 4; Figures 11, and 13]. The 1913 Sanborn map (EDR 2009) shows a church next to the cemetery (Figure 13), but that building is not on any of the other maps. After 1951, the area east of the cemetery was commercial and contained several stores along Buckeye Road (South Woodland Avenue), a lumber yard, a National Biscuit Company factory, a junk yard, and several filling stations (EDR 2009) [Figures 13–16]. ODOT aerial photographs indicated that by 1999 the only building east of the cemetery to survive was the biscuit factory, although it appeared that the junkyard had taken it over. Currently, it is the only building in Area 6.

AREA 7

Area 7 is bounded on three sides by railroad tracks (three Conrail tracks and the RTA Shaker line tracks) and Buckeye Road (Figure 3). It is nearly all high ground on the lake plain at the base of the Portage Escarpment, but may contain a small amount of valley floor at the headwater of the North Branch of Kingsbury Run (Figure 12). The NRHP and DCL St. Elizabeth's Magyar Roman Catholic Church is located along the south side of Buckeye Road in Area 7 (Figure 2, Sheet 2; Table 1), and first appears on the 1896 Sanborn map (EDR 2009) [Figure 11]. The Magyars are an ethnic group associated with Hungary and the presence of this church reinforces the notion that much of the residential development in the central section of the ASA was occupied by Hungarians.

The Lake (1874) atlas shows the area as being mostly subdivided, but there are a few larger lots depicted on that map (Figure 8; Sheet 2). Away from the Conrail tracks, Area 7 was primarily a residential area and the area along the tracks was an expanding industrial area that eventually encompassed more than half of Area 7. The industrial development started out with a rubber company and the Eberhard Manufacturing Company, who had modest facilities along the Conrail (C.&P. R.R.) tracks that are depicted on the Hopkins (1881) atlas (Figure 9; Sheet 5). Over time the industrial and manufacturing facilities expanded and the house lots filled with dwellings (Cram et al. 1892; EDR 2009) [Figure 10, Sheet 4; Figures 11 and 13–16].

Stores and saloons sprung up along Buckeye Road (South Woodland Avenue) as early as 1896 to serve the burgeoning neighborhood (Figure 11). There was also a school that is first shown on the Lake (1874) atlas and remained until sometime between 1892 and 1896 (Cram et al 1892; EDR 2009; Hopkins 1881) [Figure 8, Sheet 2; Figure 9, Sheet 5; Figure 10, Sheet 4; Figure 11]. The NRHP and DCL St. Elizabeth's Magyar Roman Catholic Church was built on this lot at that point. It has an associated school and on the 1913 Sanborn map is labeled as Hungarian (EDR 2009) [Figure 13]. A Slavic church and National Slavic Hall are indicated on the same map, adding to the notion of a Hungarian enclave in the central portion of the ASA. By 1951, the industrial expansion had reached its peak, as did the commercial development along Buckeye Road, and the residential neighborhood between them (EDR 2009) [Figures 14–16].

Historically, Area 7 can best be characterized as a ~~"~~mixed use" neighborhood, although it contained definitive distinctions between its industrial, commercial, and residential areas. The industrial buildings have largely survived to the present, but the same is not true for the residential and commercial buildings. There appears to have been one or more Slavic and Hungarian communities in the area during the early twentieth century, but commercial and residential use has been in decline since the late twentieth century. The 1986 ODOT aerial shows numerous vacant lots along Buckeye Road and in the residential area along the side streets. A clear decline in the neighborhood outside of the industrial area, which currently has only about 20 houses, three or four businesses, and the church along Buckeye Road, has occurred.

AREA 8

Area 8 encompasses an area of lake plain between the two Conrail tracks extending from Buckeye Road on the south to Woodland Avenue on the north (Figure 3). It has a different road

grid from the Area 7, which is on the south side of Buckeye Road. The NRHP-listed Weizer Building, which has been razed, was located along the north side of Buckeye Road at East 90th Street and the NRHP-eligible and DCL Woodland Recreation Center/Woodland Avenue Bathhouse is located at the intersection of East 93rd Street and Woodland Avenue (Figure 2, Sheet 2; Table 1). The Weizer Building first appears on the 1913 Sanborn map and the Bathhouse is first shown on the 1951 Sanborn map (EDR 2009) [Figures 13 and 14].

The Lake (1874) atlas shows a slightly different road configuration than presently exists. At that time, Woodland Avenue turned south along what is now Buckeye Road, the east extent of what is now Woodland Avenue (North Woodland Avenue) ended at East 86th (Congress Street), and neither of the Conrail tracks were present (Figure 8, Sheet 2). However, all the side streets were in place and all of the lots are subdivided. On the Hopkins (1881) atlas, Woodland Avenue (North Woodland Avenue) connected through taking on the modern road configuration, although the names were not the same (Figure 9, Sheet 5). About 10 percent of the lots shown on the Hopkins (1881) atlas had houses on them. The first larger buildings, including Buckeye Woodland Elementary School (Woodland School) at the southern extent of the ASA, appeared on the Cram et al. (1892) atlas as the neighborhood grew. That same map indicates that about 30 percent of the lots were occupied by single-family residences at the time (Figure 10, Sheet 4). The northwest Conrail (NYC & St.L. R.R.) tracks first appear on the Cram et al. (1892) atlas, which shows a building along a railroad siding that appears to be the first manufacturing or industrial development in Area 8 (Figure 10, Sheet 4). Commercial and residential development continued, but there does not appear to have been the intensive industrial expansion along the railroad tracks that occurred in the adjacent areas (EDR 2009) [Figures 11 and 13–16].

The Sanborn maps show that along the Buckeye Road (South Woodland Avenue) there were mostly stores (including several housed in the NRHP-listed Weizer Building), but other business indicated include a bank, a theater and dance hall, The Apollo Theater, a lumber yard, restaurants, and on later maps several filling stations with substantial subterranean components. Woodland Avenue (North Woodland Avenue) developed a bit more slowly, but along similar lines with a slightly larger number of residential buildings. There was a bottle maker, a church, the NRHP-eligible and DCL Woodland Recreation Center/Woodland Avenue Bathhouse, Woodland School, and on later maps a few filling stations. In between it was almost entirely residential along the side streets, although there were a few stores and restaurants as well as a

couple of churches. The churches are described as Greek and Hungarian on the 1951 Sanborn map, but not on the 1963 Sanborn map. The southeastern Conrail (Cleveland Short Line Rail Road [C.S.L. R.R.]) tracks first appeared on the 1913 Sanborn map. Although the commercial buildings like theaters and restaurants are less numerous on the 1973 Sanborn map, no significant decline in the neighborhood is depicted on the Sanborn maps (EDR 2009) [Figures 11 and 13–16].

Within about a decade this had changed dramatically. The 1986 ODOT aerial photograph shows an approximately 50 percent decline in the number of houses on the side streets and buildings along Buckeye Road. Even fewer appear on the 1999 ODOT aerial photograph. At present there are almost no houses in Area 8.

Area 8 appears to have been part of a vibrant mostly Hungarian neighborhood that extended as far west as the Colfax Branch of Kingsbury Run. It had commercial and community use buildings along the two main streets (Woodland Avenue and Buckeye Road) and dense residential land use along the side streets in between them. The community shows visible signs of collapse by 1986, but probably went into decline in the late 1960s or early 1970s.

AREA 9

Area 9 is a primarily industrial area between two sets of Conrail tracks extending from Woodland Avenue along its southern boundary north to Quincy Avenue (Figure 3). The NRHP Peerless Motor Company Plant No. 1 is immediately adjacent to and partially within the ASA (Figure 2, Sheet 2; Table 1). The Peerless building is no longer extant, but it once stood at the corner of East 93rd Street and Quincy Avenue. A brewery took over the facility and expanded it and subsequently it was abandoned and demolished; the lot is currently vacant. The Lake (1874), Hopkins (1881) and Cram et al. (1892) atlases show this area as vacant and the Conrail (N.Y.C.&St.L. R.R.) tracks are not shown before 1892 (Figure 8, Sheet 2; Figure 9, Sheets 5 and 6; Figure 10, Sheets 8 and 9). These atlases do show that the area west of East 93rd Street (Oak/Oakdale Street) was subdivided and by 1892 about a quarter of the lots had houses on them, with little development along the extensions along East 89th Street (Bolton Avenue), East 93rd Street (Oak/Oakdale Street), Woodland Avenue, and Quincy Avenue (Cram et al. 1892; Hopkins 1881; Lake 1874).

Area 9 is not included on the 1869 Sanborn map, but the 1913 Sanborn map shows some increased residential development west of East 93rd Street, some smaller industrial development

along the Conrail (N.Y.C.&S^{t}.L. R.R.) tracks extending into the previously subdivided lots, the Peerless Motor Company facilities, and the second set of Conrail (C.S.L. R.R.) tracks (EDR 2009) [Figure 13]. The majority of Area 9 was dominated by a Peerless test track. By 1951, the Peerless factory was replaced by a brewery and there was a large casting plant and a few smaller industrial buildings between the Conrail (N.Y.C.&S^{t}.L. R.R. and C.S.L. R.R.) tracks where the test track had once been. Another large casting plant was built along the south side of Quincy on the east side of the Conrail (C.S.L. R.R.) tracks (EDR 2009) [Figure 14]. The residential area west of East 98th Street remained and the industrial development continued in the rest of Area 9 (EDR 2009) [Figure 16]. Again, the ODOT aerial photographs show that most of the houses were razed sometime between 1873 and 1986, but the majority of the industrial buildings remain.

Most of Area 9 is between two sets of Conrail tracks and it has had a history dominated by industrial development that started at the end of the nineteenth century. Construction of the Peerless Motor Company facilities in the early twentieth century was the beginning of large scale industry in Area 9. There was some residential use that lasted from the end of the nineteenth century until probably the late 1970s or early 1980s, but it was always a minor component of the development in Area 9.

AREA 10

Area 10 is located north of Quincy Avenue and the Conrail tracks to Cedar Avenue with its western boundary mostly along East 103rd Street and its western boundary approximately along Martin Luther King Jr. Boulevard (Figure 3). The DCL Baldwin Reservoir and Grounds are immediately adjacent the ASA (Figure 2, Sheet 2; Table 1). One of the two reservoirs has been filled in, but the rest of the facility appears to be extant. The buildings and main grounds of the Baldwin Reservoir are at the top of the Portage Escarpment and well outside the ASA, but the reservoirs were located at the bottom of the hill adjacent to the Conrail tracks along the ASA's southeastern boundary.

The Lake (1874) atlas shows some areas that had been subdivided by that date, but some of the modern streets had not yet been constructed and the area is dominated by larger, ca. 5-ac–10-ac (2-ha–4-ha) lots (Figure 8, Sheet 4). The area continued to be subdivided and was filled completely approximately 20 years later (Cram et al. 1892; EDR 2009; Hopkins 1881) [Figure 9, Sheets 5 and 7; Figure 10, Sheet 10; Figures 11 and 13]. The Cram et al. (1892) atlas is the first to show the Baldwin Reservoir. The 1913 Sanborn map indicates that the area west of Stokes

Boulevard (Fairmount Road) and Petraca Road (Woodhill Road) was mostly residential, there was a coal company along the Conrail (N.Y.C.&S^{t}.L. R.R.) tracks, a couple of ice cream factories, four churches, and a number of stores along Cedar Avenue (EDR 2009) [Figure 13]. That map shows that the area to the east contained a large railroad building on Petraca Road (Woodhill Road) another ice cream factory, and a rehab center, but it was predominantly residential in character (EDR 2009). This is the first map that identifies Rockefeller Park. The area along the north side of Quincy Avenue was largely industrial by that time, while the area along the south side of Cedar was more commercial, and the residential area remained (containing only a few churches, stores, other commercial buildings) from 1913 to 1973 (EDR 2009) [Figures 13–16]. The area east of Stokes Boulevard and Petraca Road was slightly less residential than that portion of Area 10 west of those roads. As with previous portions of the ASA, in Area 10 houses were razed and the lots left vacant on the 1986 ODOT aerial photograph and at present there are houses on no more than a quarter of the properties. These are located mostly west of Stokes Boulevard and Petraca Road.

There was some commercial and manufacturing development in Area 10, but it was dominated by residential land use for most of its history. Commercial and what industrial development occurred were primarily restricted to the main streets (Quincy Avenue and Cedar Road) and along the Conrail tracks. As in much of the ASA, the area went into noticeable decline between 1973 and 1986.

AREA 11

Area 11 is located north of Cedar Road and extends to the ASA's northern terminus (Figure 3). It encompasses part of University Circle and the long since redeveloped mid-nineteenth-century village of Doan's Corners. It is on the lake plain above Doan Brook (Figure 12), which has been buried, but generally flowed along what is now Martin Luther King Jr. Boulevard and the west side of the South Campus of Case Western Reserve University. The western edges of the ASA extend onto the Main Campus of the Cleveland Clinic.

Two NRHP and DCL properties, one DCL, and a NRHP Historic District lie within or partially within and adjacent to Area 11 (Figure 2, Sheet 2; Table 1). The Temple and the Cleveland Club/Tudor Arms are individually listed in the NRHP and are DCLs. The Parkside Dwellings is a DCL. The northern terminus of the ASA extends into the Wade Park Historic District. Six contributing elements of the district are located entirely or partially within the ASA

and they include: The Temple (DCL and individually listed in the NRHP), the DCL Fine Arts Garden and Lagoon, Fourth Church of Christ Scientist (DCL under the name Pentecostal Church of Christ), Park Lane Villa, Wade Park Manor, and Epworth-Euclid Church, all of which are extant. Although Euclid Avenue Park, the predecessor to Wade Park, is shown on the Lake (1874) atlas (Figure 8, Sheet 5), the NRHP and DCL properties, including all the contributing elements to the NRHP Wade Park Historic District, first appear on the 1951 Sanborn map (EDR 2009) [Figure 14].

The Lake (1874) atlas does not depict Doan's Corners as a village distinct from greater Cleveland and it may have been subsumed into the expanding city by then. However, the roads and lot lines in this area generally match those on the earlier maps of the village, indicating that it was preserved in some recognizable fashion at that point (Figures 4, 5, and 7; Figure 8, Sheets 4 and 5). There are churches, a school, houses and a public square shown on the Lake (1874) atlas. Many of the main roads and side streets in Area 11 differ dramatically from the modern street grid, particularly along Doan Brook (Lake 1874). Carnegie Avenue (East Prospect Street) only extends east of East 107th Street (Fairmount Street) and Chester Avenue did not exist at all (Lake 1874). Many areas are subdivided into small urban lots, but there were also larger, .5-ac–2-ac (.2-ha–.8-ha) house lots, and even a few larger lots along Doan Brook. Wade Park (Euclid Avenue Park) is shown by Lake (1874).

The Hopkins (1881) atlas depicts the continuing development of the area, as a number of the larger lots depicted on the earlier map had been subdivided by that time. The majority of these smaller lots are shown with houses on them (Figure 9, Sheets 5, 7, and 8). Wade Park is shown, while Rockefeller Park is not, and Adelbert College of Western Reserve University and Case School of Applied Science are labeled (Hopkins 1881). Although some of the buildings are still present, Doan's Corners appears to have been largely absorbed by the surrounding development and expansion of Cleveland (Hopkins 1881). On the subsequent Cram et al. (1892) atlas, large buildings line Euclid Avenue, dominating the area where much of the village once existed (Figure 10, Sheets 11 and 12).

The 1896 Sanborn map shows the beginnings of the pattern of land use that would persist in Area 11 until the late twentieth century (EDR 2009). There was intensive commercial, public, and cultural development (including stores, churches, Wade Park, police and fire stations, and schools) along and north of Euclid and residential buildings to the south (Figure 11). On the

1913 Sanborn map, the traffic circle for which University Circle was named is first depicted, as was Rockefeller Park (EDR 2009) [Figure 13]. That map also indicates expanded commercial development south of Euclid Avenue, which redeveloped some of the previously residential properties. When that map was drafted, most of the residences were restricted to south of Carnegie Avenue (Wilbur Avenue) and along East 105th Street. This concentration of residential space was even more apparent on the 1951 Sanborn map (EDR 2009) [Figures 13 and 14]. The residential areas continued to shrink until 1973, when they were primarily restricted to south of Carnegie Avenue and west of Fairmont Boulevard (EDR 2009) [Figures 15 and 16]. The 1986 ODOT aerial shows just a few dwellings along Cedar Avenue and on the 1999 ODOT aerial the Cleveland Clinic has expanded into the area and the last of the houses disappear.

North of Carnegie Avenue, and especially north of Euclid Avenue, development tended toward commercial, public, and cultural use. Although there were still some residential areas, particularly along East 105th Street and north of Chester Avenue (Fairmont Avenue N. E.), the 1913 Sanborn map shows that most of that portion of Area 11 was covered with municipal, institutional, commercial, and industrial buildings. These include police and fire stations, a power company and transformer station, churches, schools, a Masonic temple, a large boarding house, a skating rink, and numerous commercial and light-manufacturing buildings, as well as the numerous shops along Euclid Avenue (EDR 2009) [Figure 13]. On the 1951, Sanborn map the minor residential development had diminished further and most of the significant buildings (all the NRHP and DCL properties) and institutions were present and well established (EDR 2009) [Figure 14]. Many of the same buildings are still present, but there are now more restaurants, hotels, theaters, and a large medical building (EDR 2009). Not all of Area 11 is shown on the 1963 and 1973 Sanborn maps (EDR 2009), but there was little substantive change except a reduction in residential use north of Carnegie Avenue and east of Stokes Boulevard (Fairhill Road) [Figures 15 and 16]. The South Campus of Case Western Reserve University occupied the area along the ASA's eastern boundary throughout the twentieth century (EDR 2009) [Figures 13–16]. There do not appear to be any individual houses within the ASA north of Carnegie Avenue on the 1973, 1986, and 1999 ODOT aerials.

Area 11 has seen substantial change and development. Initially it was the site of a village on the eastern outskirts of Cleveland and has developed into a medical, cultural, and academic center of international standing. It contains the highest concentration of NRHP and DCL

properties within the ASA. Residential expansion of Cleveland overtook Doan's Corners in the late nineteenth century and then gave way to commercial, public, and cultural development of University Circle and the Cleveland Clinic during the mid- and late twentieth century. This development is characterized by large buildings and campuses that have likely obscured evidence of the area's previous incarnation.

ARCHAEOLOGICAL SENSITIVITY ASSESSMENT

The archaeological sensitivity assessment is an estimation of the chance of encountering a culturally significant and previously unrecorded archaeological site within the Archaeological Study Area (ASA). This estimate is based on a review of the archaeological literature review, a review of previous archaeological investigations in the project vicinity, a detailed review of historic cartographic sources, and the historic context of the ASA. Together, these four data streams provide a glimpse at the potential for the preservation of intact archaeological sites throughout the ASA, but perhaps more importantly they can aid in identifying where excessive disturbance or urban redevelopment has likely affected the remnants of past land use and they can aid in determining the potential significance of any remains that are preserved.

It is critical to recognize that the goal of Section 106 archaeological investigations is not to identify all archaeological sites within a particular study area. Rather, the thrust of all investigations should be to identify the significant or potentially significant sites based on the criteria established by the Advisory Council on Historic Preservation and the National Park Service (Andrus 1997). In many instances, it is most effective to first determine whether or not archaeological sites exist within in a given study area, but in urban environments we can assume that archaeological remains are consistently present. That is to say that with few exceptions, urban landscapes contain subsurface evidence of past land use. Whether this is in the form of refuse deposits, rubble from demolished buildings used as fill, building foundation, or defunct infrastructure, the nature of urban landscape development ensures that these are common occurrence in most modern cities. Therefore, it is acknowledged that archaeological sites undoubtedly occur with some frequency within the Opportunity Corridor ASA. The goal of this sensitivity assessment is to provide some guidance as to where significant archaeological resources may persist, what types of resources they might be, and what might contribute to their potential significance.

For the purpose of this sensitivity assessment, each of the 11 archaeological review areas was ranked with either a low, moderate, or high probability to contain intact, significant cultural resources. Low probability areas are those in which archaeological remnants have either most likely been compromised by subsequent redevelopment, or in which the potential archeological resources are of a character unlikely to be determined eligible for inclusion in the NRHP. An example of the latter would be a ca. 1940s house site that was occupied until the mid-1990s and

then razed. Past experience has demonstrated that urban housing stock from the mid-twentieth century does not typically leave an archaeological footprint that is often considered significant. It is unlikely that additional archaeological investigation in these areas will identify significant sites. Moderate probability areas are those in which it is possible that archaeological resources will retain some level of significance. The increased likelihood of significance can be a result of site type, elevated levels of preservation, or historic context. It is possible that additional archeological investigation in these areas will encounter significance archaeological sites. Areas of high probability are those in which it is likely that significant archaeological sites exist. In these areas, archaeological resources have an elevated chance to be determined culturally significant and additional archaeological investigations are likely warranted.

Given the scope of the project and the extent of the ASA, this review is necessarily broad. It should be noted that a more detailed land use history for affected parcels will likely be necessary once a road alignment has been determined. The more detailed history will complement this document and serve as a guide to any subsurface reconnaissance efforts that are required in advance of project construction.

AREA 1

Area 1 lies in the North Broadway neighborhood of Cleveland at the western end of the ASA. It extends from near the I-490/I-77 interchange east to a point near the intersection of Praha Avenue and Bragg Road (Figure 3). Approximately one quarter of Area 1—the southeast quadrant—was previously surveyed by Bush (1978b), who did not identify any archaeological resources (Figure 2, Sheet 1). This survey covered the majority of Area 1 that has not been affected by the construction of I-490, which was constructed ca. 1973. I-490, or more appropriately the interchange between I-490 and I-77 has affected the majority of Area 1. Just the previously surveyed southeast quadrant and a portion of the existing RTA commuter rail line and depot/yard on the northern margin of Area 1 have not been affected by the roadway construction.

Although this portion of the ASA was initially a part of the village of Newburgh and was an early industrial center in the City of Cleveland, the recent land use has compromised the majority of the Area. The highway and its right-of-way, constitutes a major disturbance that has likely grossly affected any cultural resources that were present in the area prior to their construction. The northern margin of Area 1 is an active passenger rail line and depot/yard,

while the southeastern quarter of the area has been previously surveyed and found to contain no significant archeological resources. Accordingly, Area 1 is deemed to have a low probability for containing significant archeological resources (Figure 17).

AREA 2

Area 2 extends from the eastern limit of Area 1 to the center of the Kingsbury Run drainage, including small north-south extensions along E. 55th Street (Figure 3). As with Area 1, Area 2 is located in the North Broadway neighborhood of Cleveland. It was originally settled as a distinct village, Newburgh, but was incorporated into the city in the mid-nineteenth century. The historic context indicates the North Broadway neighborhood was an early industrial center in Cleveland. Review of early cartographic resources revealed a general trend toward residential development in the southern and central portions of Area 2, on the high ground overlooking the Kingsbury Run valley. Industrial and commercial development was concentrated on larger properties along the low-lying areas at the northern and eastern edges of the area.

The majority of Area 2 was surveyed by Bush (1978b) and a portion was resurveyed by Mustain et al. (2006) [Figure 2, Sheets 1 and 2]. The Bush survey did not identify any archaeological remnants within the study area, although the field investigation for that survey was admittedly limited. Mustain et al. (2006) identified one site, 33CU498, which was characterized by domestic debris associated in a disturbed context. The refuse appeared to be associated with a series of ca. 1900 residential structures that had been razed and the property was subsequently redeveloped. Although that survey was unable to investigate portions of the site that were encapsulated by pavement, the identified portions did not appear to meet NRHP eligibility criteria as the site did not appear to possess a sufficient degree of integrity.

Based on the above, it is unlikely that any additional archaeological resources within Area 2 will be deemed significant. While building foundations, co-mingled and redeposited refuse deposits, and urban infrastructure features no doubt persist in the area, the two investigations that have occurred indicate that those are unlikely to possess either integrity or a strong research potential. In addition, the historic context suggests that it will be difficult to connect any archaeological sites that are encountered with an important historic theme or trend, beyond the very broad association with the rise in urbanism and industrialization around the end of the nineteenth century. As such, Area 2 is deemed to have a low probability of containing significant archaeological sites (Figure 17).

AREA 3

Area 3 is located between Kingsbury Run on the west and a set of RTA commuter rail tracks on the east (Figure 3). It consists of low-lying land on the west, north, and east sides, surrounding a central toe or ridgetop. The historic map review indicates that the area was largely developed in the last decades of the nineteenth century and the first decades of the twentieth century, and that industrial development was concentrated on the low-lying areas near the railroad tracks, while residential development was concentrated on the central ridgetop. Ultimately, however, the development in area was relatively light,when compared to adjacent areas and it was not included on several of the Sanborn Fire insurance maps (EDR 2009). The majority—approximately 60 percent—of this area was surveyed by Bush (1978b), who did not identify any archaeological remains (Figure 2, Sheet 2). Much of the area that was not investigated by Bush (1978b) lies with the right of way for the RTA commuter rail and Norfolk-Southern railroad tracks at the northern margin of the area (Figure 3).

Much of the early twentieth-century housing stock remains on the central ridgetop, although some demolition and redevelopment has occurred. This demolition occurred during the late 1970s through the 1990s, largely under the auspices of urban renewal. The facts that the residential sites were occupied through the third quarter of the twentieth century—if they are not still occupied—and that they were largely constructed in the decade surrounding the turn of the twentieth century, suggests that archaeological evidence of the razed houses will be of minimal importance. In addition to the disturbance caused by modern demolition, which is typically carried out with a mechanical excavator, a bulldozer, and finally a grader, twentieth-century urban domestic sites often suffer from a lack of material culture. As urban infrastructure improved and centralized, municipal trash collection improved, many twentieth-century sites are relatively free of the stratified "sheet midden" deposits that can be found at earlier sites. Lacking a substantial artifact assemblage, or even dependent features from earlier eras like ice houses, privies, wells or cisterns, these sites do not often contain a great deal of information beyond the foundation footprint and information regarding construction materials found in the demolition debris. To compound this further, the recent date of occupation for these houses and their recent demolition has likely co-mingled modern material with any historic material that does exist, making it impossible to distinguish older and more recent deposits.

In light of these facts—that the northern portion Area 3 falls within an existing railroad right of way; that the minor industrial development along the lowlands and the late nineteenth- and early twentieth-century residential development likely contain a incomplete and likely disturbed archaeological record; and a previous archaeological survey failed to indicate a potential for intact or significant cultural resources in the area—Area 3 is deemed to have a low probability to contain significant archaeological resources (Figure 17).

AREA 4

Area is the first of several larger areas in the central portion of the ASA (Figure 3). It is bounded on the east and south by a set of RTA commuter rail tracks, on the north by the Norfolk-Southern railroad right-of-way, and on the east by a set of Conrail railroad tracks. It falls within the Kinsman neighborhood of Cleveland, and slightly more than one-third of this area was previously surveyed by Bush (1978b)[Figure 2, Sheet 2]. The historic map review revealed that this area was developed earlier and more intensively than Area 3. By the 1880s, approximately 75 percent of the properties in Area 4 held buildings, with large industrial development concentrated along the railroad rights-of-way on the northern and eastern margins of the area, while the western, southern, and central portions of area were largely occupied by residential and light commercial (i.e., shops, saloons, and the like) buildings. By the 1910s, nearly 100 percent of the properties are depicted as developed.

The map review and historic context revealed an interesting facet regarding the residential development of this portion of the city. During the late nineteenth-century and throughout the first half of the twentieth, it was largely inhabited by Hungarian and eastern European immigrants. The presence left a distinctly Hungarian mark on the neighborhood that is most visible on the historic maps from cultural institutions like churches. This neighborhood was so distinctly Hungarian that it is fair to call it an enclave.

By the late 1960s, however, much of the residential portions of Area 4 had fallen into disrepair. Properties were abandoned and the neighborhood decayed. During the late 1970s, 1980s and into the 1990s, the majority of the residential properties were razed and allowed to develop into new green space. While the large industrial and commercial concerns in the north and eastern margins of the area are still extant, well less than 25 percent of the original housing stock remains.

The developmental trajectory of Area 4 is similar to that of Area 3, although both the residential development and the demolition were more intensive, at least in terms of scope. However, this area developed slightly earlier, with approximately three quarters of the housing stock in place by the 1880s. In addition, there is strong evidence that the community was an ethnic enclave representing one of the major immigrant communities drawn to Cleveland during its rise to industrial and economic prominence in the United States. Excavations on other ethnic residential sites in the city, notably those within the Irishtown Bend Archaeological District, recorded significance in contemporary archaeological deposits from a predominantly Irish neighborhood. The archaeological record of residential properties along the Cuyahoga River in downtown Cleveland demonstrated a strong Irish connection and the spoke to the preservation of community and cultural connections during a period of massive immigration and acculturation (Lee et al. 1987).

Undoubtedly there are archaeological remains within Area 4. Largely, these will be the remnants of housing stock that was demolished in the last quarter of the twentieth century. As such, these resources will suffer from many of the same deficiencies that potential sites there did. However, many of the houses in Area 4 predate those in Area 3 by several decades, perhaps allowing for a greater accumulation of material. In addition, any residential archaeological sites within Area 4 have the potential to contain data regarding the Hungarian immigrant experience in Cleveland. This association is enough to suggest a greater potential for archaeological sites in Area 4 to be determined significant. Accordingly, Area 4 is deemed to have a low to moderate probability to contain significant archaeological sites (Figure 17).

AREA 5

Area 5 exists on the north side of the Norfolk-Southern and RTA commuter rail lines that define the northern edge of Area 4 (Figure 3). It extends northwest along the western side of the Conrail tracks for approximately 3,500 feet (1,067 m). This area also lies in the Kinsman neighborhood, but none of it has been previously surveyed. The historic map review revealed that Area 5 was initially developed in the last quarter of the nineteenth century with a mixture of public institutions like a prison and reform farm, residential buildings, and minor industrial buildings along the railroad right-of-way. However, this area has been subjected to growth and redevelopment several times, and the current built environment bears little resemblance to the historic structures that once stood there.

The most obvious redevelopment occurred in the eastern half of the block south of Woodland. Initially, this portion of Area 5 was occupied by the City Workhouse and House of Refuge, which served as a prison, almshouse, and reform farm. The large facility was taken over by a series of other public agencies including the water department in the first half of the twentieth century, before it was demolished and redeveloped ca. 1950. The site was leveled and re-graded and a large, multi-wing public housing development was constructed in its place.

Other episodes of notable redevelopment occurred among some of the residential housing stock that is depicted on late nineteenth- and early twentieth-century maps. By 1913, many of the domestic structures along the north side of Woodland Avenue had been supplanted by industrial buildings. Concurrently, additional residential buildings filled the vacant lots south of Woodland. By 1951, however, many of these facing Woodland had been leveled and new, large industrial buildings stood in their place. By 1973, those industrial buildings had been replaced by a third building episode and the remaining residences had been razed and paved over to make a large parking area.

This intensive redevelopment has affected all but the southwestern corner of Area 5. In that area, the twentieth-century housing stock was leveled ca. 1970 and converted to a parking area, but there was little other disturbance. In that area, evidence of those houses may well survive. The massive leveling or disturbance and redevelopment elsewhere in Area 5 has likely obliterated all interpretable or meaningful evidence of the former built environment. The house sites that are concealed beneath the current parking area, however, are twentieth-century in origin and a contextual association that might add some significance as was found in Area 4. Therefore, Area 5 is deemed to have a low probability to contain significant archaeological resources (Figure 17).

AREA 6

Area is located on the north side of the Norfolk-Southern and RTA commuter rail lines as well, but on the east side of the Conrail right-of-way (Figure 3). As with Area 5, it is located in the Kinsman neighborhood, and has not been subjected to a previous cultural resources survey. The historic map review revealed that the entire eastern portion of Area 6 has been occupied by St. Joseph's Cemetery since it was opened 1850. The cemetery currently has approximately 18,000 interments spread over 12.5 acres (5 ha).

The eastern half of Area 6 was originally developed as a low-density residential neighborhood that was largely constructed in the first decades of the twentieth century. Prior to that, the eastern half held a single large residence, a large pond, and a substantial icehouse. By 1892, the pond had been filled and the icehouse removed, although the large mansion remained. By 1913, the mansion had been leveled and approximately 25 single-family homes had been constructed. The majority of these were leveled and a large industrial building, occupied by the National Biscuit Company, was constructed in their place, while filling stations and structures were built over the top of the remainder. The biscuit company building remains, but the remainder of this portion of Area 6 is currently occupied by an auto salvage/junk yard.

The western portion of Area 6 is entirely occupied by St. Joseph's Cemetery and the number of internments and improvements to that parcel make it extremely unlikely that a significant archaeological site, not associated with the cemetery, will be encountered there. While it is not necessary to address the cemetery as an archaeological resource, it is clear that impacts to the cemetery would involve a substantial effort to relocate the many interments in any area of potential effect. The eastern portion of Area 6 has been subjected to several waves of intensive redevelopment, that likely little evidence of the nineteenth-century structures, and only trace evidence of the twentieth-century residences survives. It is highly unlikely that this evidence would meet the criteria for inclusion in the NRHP. Therefore, Area 6 is deemed to have a low potential to contain significant archaeological resources (Figure 17).

AREA 7

Area is the second of the large areas in the central portion of ASA (Figure 3). It is bound on the east by the Conrail right-of-way, on the north by the Norfolk-Southern and RTA commuter rail rights-of-way, on the east by Buckeye Road, and on the south by another set of RTA commuter tracks. Area 7 is in the Kinsman neighborhood and is culturally and developmentally connected to Area 4. The southernmost tip of Area 7 was included in Bush's (1978b) survey (Figure 2; Sheet 2).

The historic map review indicates that like Area 4, Area 7 was developed into a well-defined industrial and residential sectors. From the late nineteenth century to the present, heavy industrial buildings have dominated the built environment in the southwestern half of Area 7. The industrial development is concentrated along the Conrail tracks that separate Areas 4 and 7.

In contrast, the northeastern half of Area 7, or that portion northeast of Evans Avenue and Evarts Road, was historically a densely occupied residential neighborhood. It was initially developed in the last decades of the nineteenth century. The historic map review and historic context revealed a strong Hungarian presence in this neighborhood. This is made most clear by St. Elizabeth's Magyar Roman Catholic Church, a NRHP-listed church that stands along Buckeye Road, and the Slavic Church and National Slavic Hall that were depicted on the 1913 Sanborn Fire Insurance Company map of the area (EDR 2009) [Figure 13]. According to the historic context prepared by Michael Baker & Associates for this project, significant Hungarian immigration to Cleveland began about 1890, when this neighborhood was rapidly developing. It remained a largely Hungarian enclave until the 1960s, when Hungarian descendants were supplanted by African-Americans. In the 1970s and 1980s, the majority of the residential buildings, which had largely been abandoned or fallen into extreme disrepair, were razed and converted to green space.

The archaeological data contained in Area 7 is undoubtedly residential in character. The large industrial development and major cultural institutions still stand, but the majority of the late nineteenth- and early twentieth-century housing stock has been leveled. The most intensive period of demolition occurred during the 1970s and 1980s, as it did in Areas 3 and 4. The archaeological evidence of these buildings in Area 7 will suffer from many of the same deficiencies as the potential sites in those areas, but have the same potential to address a significant research topic as those likely to occur in Area 4. The residential archaeological sites that most likely persist in Area7 have the potential to contain data regarding the Hungarian immigrant experience in Cleveland. This association is enough to suggest a greater potential for archaeological sites in Area 7 to be determined significant. Accordingly, Area 7 is deemed to have a low to moderate probability to contain significant archaeological sites (Figure 17).

AREA 8

Area 8 is a triangular area defined by Buckeye Road on the southwest, Woodland Avenue on the north, and a set of RTA commuter rail tracks that form the eastern boundary of the ASA in this area (Figure 3). This is last of the archaeological areas that falls within the Kinsman neighborhood. The literature review revealed that two NRHP-listed or eligible properties (Weizer Building and Woodland Recreation Center/Woodland Avenue Bathhouse) were

identified within Area 8, but no portion of this area has been subjected to a formal cultural resources investigation (Figure 2; Sheet 2).

The historic map review revealed that Area 8 followed a similar developmental trajectory as Areas 4 and 7, although the industrial development was less pronounced. Instead, the area was primarily residential along its many side streets and largely commercial on the major thoroughfares. As with the previous area, the development of Area 8 largely occurred during the late 1880s, 1890s, and 1910s, at a time when Hungarian and eastern European immigration to Cleveland was significant. Evidence of a cultural connection with this wave of immigration can be found on the 1951 Sanborn map (EDR 2009), which labels several churches in the neighborhood as either Greek or Hungarian (Figure 14).

Area 8 did not contain the same level of industrial development that characterized substantial portions of both Areas 4 and 7. Instead, the commercial development of Area 8 was more pronounced than it was in those areas. The map review revealed a substantial number of restaurants, saloons, stores, theatres, and other commercial ventures along the major thoroughfares, that must have given this portion of the Hungarian/eastern European neighborhood a more vibrant feel than those other areas.

The two previously identified resources in Area 8 include the Woodland Avenue Recreation Center/Woodland Avenue Bathhouse, which stands along Woodland Avenue, and the Weizer building, which stood along Buckeye Road. The Weizer building was listed in the NRHP, but was recently demolished. The Weizer building was a large, multi-story brick building that housed a number of stores and commercial ventures. It was listed on the NRHP as example of twentieth-century revival architecture and its period of significance was defined as the first half of the twentieth century.

Development in Area 8 followed the same general trajectory of both Area 4 and 7 and the majority of buildings in Area 8 were razed in the 1970s and 1980s. Unlike those areas, however, large commercial buildings like the Weizer Building were also demolished, suggesting the disturbance from these activities may have been more intensive in this area.

The residential and commercial archaeological sites that likely remain beneath the ground surface likely suffer from the same deficiencies that most likely affect similar remains in those other areas. They may suffer from a lack of interpretable deposits of material culture given the relatively recent vintage of the sites. For the same reason, they may not consist of a wealth of

structural/site component data, as the residences may have been entirely integrated into the urban infrastructure like public water and sewer services. And the disturbance caused by modern demolition and grading may have blended or comingled what deposits did remain so thoroughly as to make them unsuitable for archaeological inquiry. However, as with those previous areas, the historic context of the area suggests that if any sites to retain some amount of integrity, they have an elevated chance of being found significant based on their association with the Hungarian and eastern European immigrant experience in the first half of the twentieth century.

As such, Area 8 is deemed to have a low to moderate probability of containing significant archaeological resources (Figure 17).

AREA 9

Area 9 is a smaller triangular area immediately north of Area 8 (Figure 3). It is bound on the south by Woodland Avenue, on the north by Quincy Avenue, and by railroad tracks on the east and west. This area falls within the Fairfax neighborhood of Cleveland and the historic map review shows a substantially different development trajectory for this portion of the ASA than for those areas immediately adjacent. No portion of this area has been subjected to a cultural resources survey in the past, although a single NRHP-listed building was located adjacent to it (Figure 2, Sheet 2).

The historic map review revealed that Area 9 stood largely vacant until the 1890s, when minor residential development took place in its southwest corner. This development was largely associated with the developed of adjacent Area 8, however, and did not carry over across the breadth of Area 9. Rather, Area was primarily industrial by the 1910s, and a substantial portion was occupied by a test track for the Peerless Motor Company. The NRHP-listed Peerless Motor Company manufacturing facility was located adjacent to Area 9, but it has recently been razed. The Peerless Motor Company stopped making cars in the 1930s and began brewing beer, which it did until the middle of the twentieth century. After the company ceased production of automobiles, the test track and much of the neighboring residential buildings were redeveloped to hold substantial, heavy industrial buildings. Subsequently, many of these industrial buildings have been razed.

Currently, the northern half of the Area 9 stands vacant, but it has been intensively disturbed by historic construction and modern demolition of industrial buildings. The area of the Peerless Motor Company test track still contains the large industrial buildings that were built

over that feature in the 1930s, with the exception of the track's southwest quadrant, which was never redeveloped and now holds an auto salvage yard. The southwestern corner, which saw the only residential development in Area 9, currently houses several large industrial/commercial buildings, a large freight yard, and just two of its original complement of residences.

Area 9 was largely developed in the twentieth century and was historically a predominantly industrial section of the city. It has been subsequently redeveloped with additional or expanded industrial and commercial buildings. The intensive redevelopment of Area 9 has likely impacted the archaeological remnants that may have previously existed, particularly of the residential buildings in the southwest corner. Evidence of the industrial buildings that once stood in the northern portion of Area 9 may persist as well, but the demolition of those facilities has likely compromised much of their integrity. As such, Area 9 is deemed to have a low potential to contain significant archaeological resources (Figure 17).

AREA 10

Area 10 is the first of two areas located in the University neighborhood of the city (Figure 3). It is bound on the south by the Conrail railroad tracks, on the north by Cedar Avenue, on the east by Martin Luther King Jr. Boulevard, and on the west by East 103rd Street. The historic map review indicates that Area 10 was a largely twentieth-century residential and commercial neighborhood, with a minor amount of industrial development. The literature review revealed that a small portion of Area 10 along Stokes Boulevard was subjected to a Phase I archaeological field reconnaissance (Lee 1985) [Figure 2, Sheet 2].

As with the previous areas, Area 10 appears to have been developed and incorporated into the city between ca. 1890 and 1910. Unlike those areas, there was little heavy industrial development. Rather, Area 10 was characterized by intensive residential development along the side streets and moderate commercial development along major thoroughfares like Cedar Avenue. What industrial develop did occur was constrained to the southernmost portion of Area 10 and was largely an extension of the industrial development around the railroad tracks in Area 9. The was also minor industrial development between Cedar Avenue and Frank Avenue, opposite East 107th Street, but this was redeveloped into a larger, modern industrial complex sometime after 1963.

This industrial redevelopment along Cedar Avenue accompanied a broader shift in the character of Area 10. As with previous portions of the ASA, many of the buildings in Area 10

were demolished during the 1970s and 1980s. Currently, there is very little residential development between Cedar Avenue and Frank Avenue, and many of the former lots have been redeveloped into large commercial and industrial buildings with associated parking areas. An equally substantial number of the houses south of Frank Avenue have been demolished as well, and less than half of the early twentieth-century houses remain.

Area 10 certainly contains archaeological resources. Most likely these resources are the remains of the many twentieth-century domestic sites that were razed and graded toward the end of that century. It is anticipated that they consist of foundation remnants, demolition material in cellar holes, infrastructure features like water and sewer lines, and a co-mingled or thoroughly mixed artifact and demolition debris scatter in fill soils. This was just the type of site documented during the Lee (1985) survey of a small portion of Area 10 and there is little reason to suspect differing levels of preservation within other portions of the area. As a final note, there is no clear or distinctive historical context, beyond the general development of the city and the move toward urbanization in the late nineteenth century, that can serve as an interpretive filter for any remains that do exist.

As such, it is deemed unlikely that any archaeological sites in Area 10 will be found significant and it is assigned a low probability (Figure 17).

AREA 11

The final area of the ASA considered here is Area 11. This area encompasses the entire northern portion of the ASA (Figure 3). This area is currently known for the plethora of cultural institutions surrounding Wade Oval and University Circle, as well as for the main campus of the Cleveland Clinic. The literature review revealed a number of NRHP-listed and eligible properties within Area 11, a large portion of which along Euclid Avenue was subjected to an intensive series of cultural resources surveys (Bryant 2007; Hughey and Miller 2001; Miller 2001; Walsh et al 2000) [Figure 2, Sheet 2].

The historic map review revealed that much of Area 11 was originally a separate and distinct village known as Doan's Corners. That village was centered on present day East 105th Street and Euclid Avenue and in the mid-nineteenth century served as a stop on the road for travelers between Cleveland and eastern points like Buffalo, New York. The small village was annexed and incorporated in the expanding city of Cleveland in the 1870s and it was quickly supplanted by urban growth. By the mid-1890s, there was virtually no residential development

north of Carnegie Avenue. Rather, that entire area had been developed by large public institutions, while residential development was constrained between Carnegie Avenue and Cedar Avenue. This pattern persisted through the twentieth century, but expansions of the Cleveland Clinic and other institutions have redeveloped the area between Carnegie and Cedar, which used to be largely residential. Currently, there is no residential presence in Area 11.

Area 11 contains a number of the premier medical and cultural institutions of Cleveland. However, since the annexation of Doan's Corners, virtually all of the development within this region has been large scale, and all areas of earlier residential construction have been subsequently redeveloped. Many of the modern buildings have substantial subsurface components like parking garages and other facilities. It is unlikely that substantial amounts of evidence that predate the current built environment survive with any degree of integrity. For this reason, Area 11 is deemed to have a low probability of containing significant archaeological sites (Figure 17). This was the conclusion reached during a multi-year and multi-phase cultural resource survey along Euclid Avenue which identified and excavated a significant site elsewhere in the city, but did not deem the current ASA capable of holding significant resources (Bryant 2007; Hughey and Miller 2001; Miller 2001; Walsh et al 2000).

It should be noted, however, that the current grounds of the Ronald McDonald House—which stands at the northwest corner of Euclid Avenue and East 105th Street—also held the Doan's Corners cemetery. While the burials were reportedly disinterred and moved elsewhere, it is a truth that historic cemetery relocation projects were often incomplete and it is likely that interments remained after that work was completed. It is possible that intact burials survive on the Ronald McDonald House property and any ground-disturbing activities in the vicinity should be monitored by a competent professional trained in the identification of human remains.

SUMMARY AND CONCLUSION

Ultimately, the environmental and prehistoric settings, the archaeological literature review, and the historic map review illustrate that the probability of encountering a significant, previously undocumented archaeological resource within the ASA is not very high. With the exception of the northernmost and westernmost portions of the proposed project corridor, the

ASA was largely developed in the last decades of the nineteenth century and first decades of the twentieth century Many portions of the ASA have subsequently been redeveloped or subjected to intensive demolition activities. The potentially oldest historic deposits, those associated with early villages that were distinct from the City of Cleveland, include potential remains from early development in the vicinity of Newburgh near Area 1 and potential remains from the village of Doan's Corners in Area 11. Those two areas, however, have been subjected to the most intensive redevelopment of the entire ASA and it is unlikely that interpretable, significant archaeological evidence survives. The exception to this is the potential for burials from the Doan's Corner cemetery to remain intact in the vicinity of the Ronald McDonald House on East 105th Street in Area 11.

The remainder of the ASA, however, was incorporated into the fabric of the city at time of rapid expansion and growth fueled by immigration and expansion of the steel industry. The historic built environment was created between ca. 1880 and 1910, and for the large part did not change significantly until the second half of the twentieth century. By the 1970s, the steel industry had largely collapsed and many of the residential neighborhoods in the ASA had fallen into disrepair and the commercial ventures like storefronts, restaurants, and the like disappeared as well. Many of the residential and commercial properties within the ASA were leveled, filled, and graded to reduce the number of blighted and abandoned properties. Many of the large industrial buildings in the ASA remain, or have been redeveloped into more modern facilities, while large cultural institutions like churches tend to persist as well.

The ASA certainly contains a large number of previously unrecorded archaeological sites. The majority of these are undoubtedly the remains of the demolished twentieth-century housing stock and likely consists of foundation remnants, demolition debris within a cellar hole, and a scatter of architectural and domestic artifacts in a graded and co-mingled fill deposit. Other resource types within the ASA might be associated with past industrial ventures like the

Peerless Autoworks test track, located in Area 9, and urban infrastructure features like sewer and water lines.

In each instance, the potential for these resource types to be considered significant has some problem. For much of the residential housing stock, the resulting archaeological sites will likely suffer from two significant problems. The most obvious is the disturbance associated with the demolition events. Less obvious, but certainly still important, is the fact that as twentieth-century residences, these sites are not expected to accumulate the types of interpretable and important artifact deposits and feature groups often found on earlier sites. These two factors make it unlikely that archaeological evidence of the residential buildings in the ASA will be determined significant.

In large part, the industrial development that occurred along the major thoroughfares and railroad rights-of-way throughout the ASA remains intact. In a few instances, as in Area 9 and Area 10, late nineteenth- and early twentieth-century industrial buildings were redeveloped with more modern facilities. In other instances, abandoned industrial facilities were demolished concurrent with the reduction in abandoned housing stock that took place between ca. 1970 and 1990. In those instances, most prominently in the northern portion of Area 9, the ―vacant" industrial land shows evidence of extensive disturbance resulting from the modern demolition. Only the demolished industrial facilities can be considered potential archaeological sites and those facilities suffer from the same likely data deficiencies that affect the residential resources. They are of relatively recent date and the demolition has likely destroyed the context of all but the foundation of footer remains of the buildings themselves. While the relatively recent date is not sufficient cause to determine the potential industrial sites are not significant, it does draw into question their ability to contain new and important data that may have survived the demolition and subsequent reuse of each property.

All of the previous archaeological investigations that have occurred within the ASA support these conclusions. Those studies either determined that subsurface investigations in their respective portions of the ASA were not warranted, or they conducted limited testing to evaluate the extent of disturbance on known of suspected resources. All of the sub surface investigations revealed extensive disturbance that has compromised the interpretive context of targeted resources.

However, the current ASA is substantially larger than the previous studies and contains a correspondingly larger number of potential archaeological sites. It is not without reason to assume that some of those resources are more well-preserved than others and may contain an interpretable archaeological record. In those instances, sites with a potentially important historic context are more likely to be determined significant than those without. For this reason, the residential neighborhood that historically spanned Areas 4, 7, and 8 has a greater potential to contain significant archaeological resources than other areas of the ASA. From its first inception in the 1880s through the 1950s, this neighborhood was a strong Hungarian enclave occupied by first generation immigrants. Other excavations on residential sites in ethnic neighborhoods of Cleveland have recovered significant archaeological evidence of the preservation and maintenance of cultural identity during the process of immigration and acculturation, and it is possible that sites in this area may possess similar data.

This review of potential archaeological significance is necessarily broad and additional research will need to be conducted once a road alignment has been chosen. That research can be focused to individual blocks, streets, and even properties to evaluate preservation potential and potential significance in much greater detail than is currently possible. However, this investigation indicates that additional archaeological investigation in areas that possess a low probability for containing significant archaeological resources are probably not warranted. It may be most effective to concentrate future investigations on those areas with the greatest potential to contain significant resources. Those are Areas 4, 7, and 8, and the vicinity of the Doan's Corners cemetery in Area 11.

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FIGURES

Figure 1. Portion of the ODOT Cuyahoga County highway map showing the vicinity of the Opportunity Corridor archaeological study area.

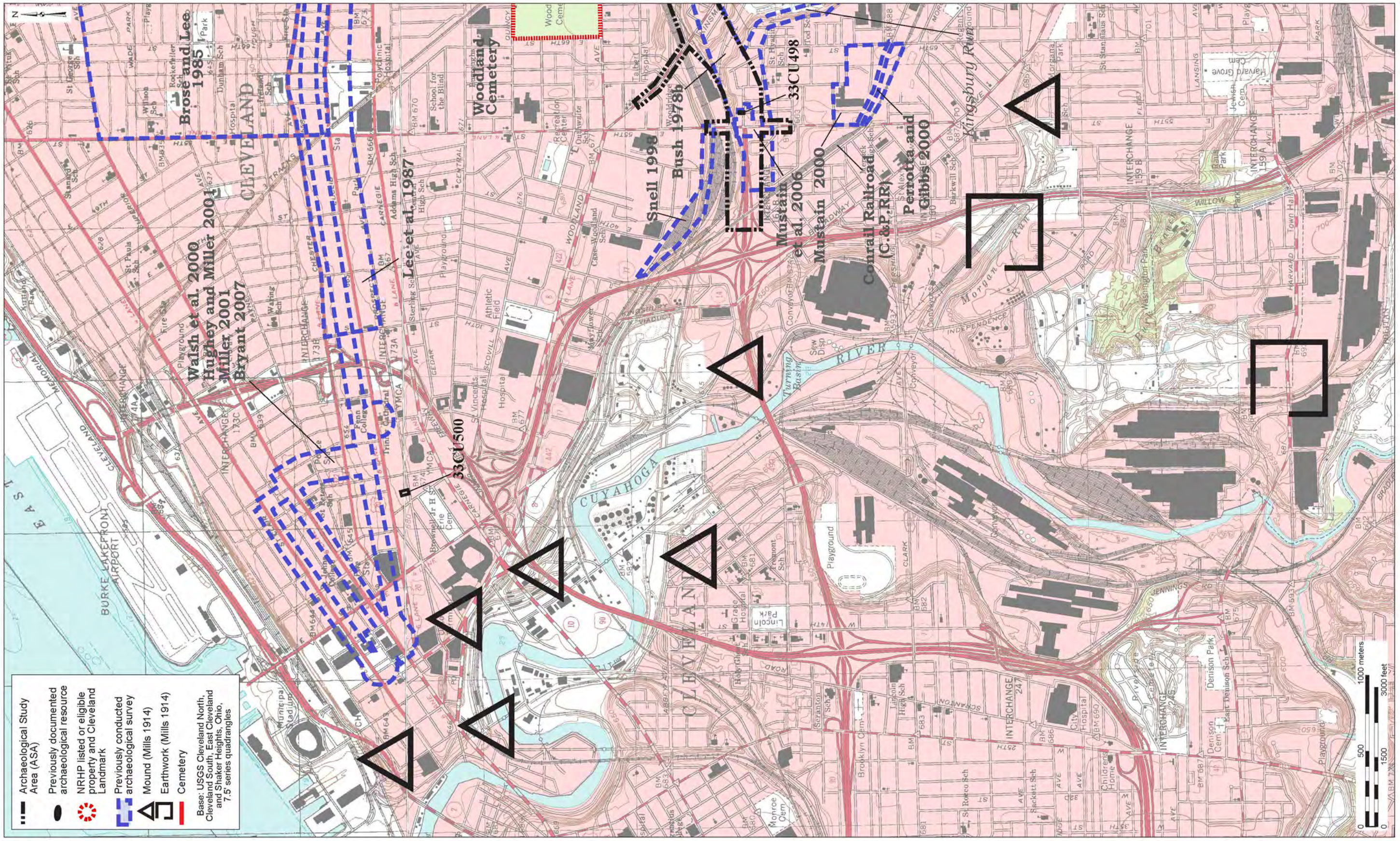
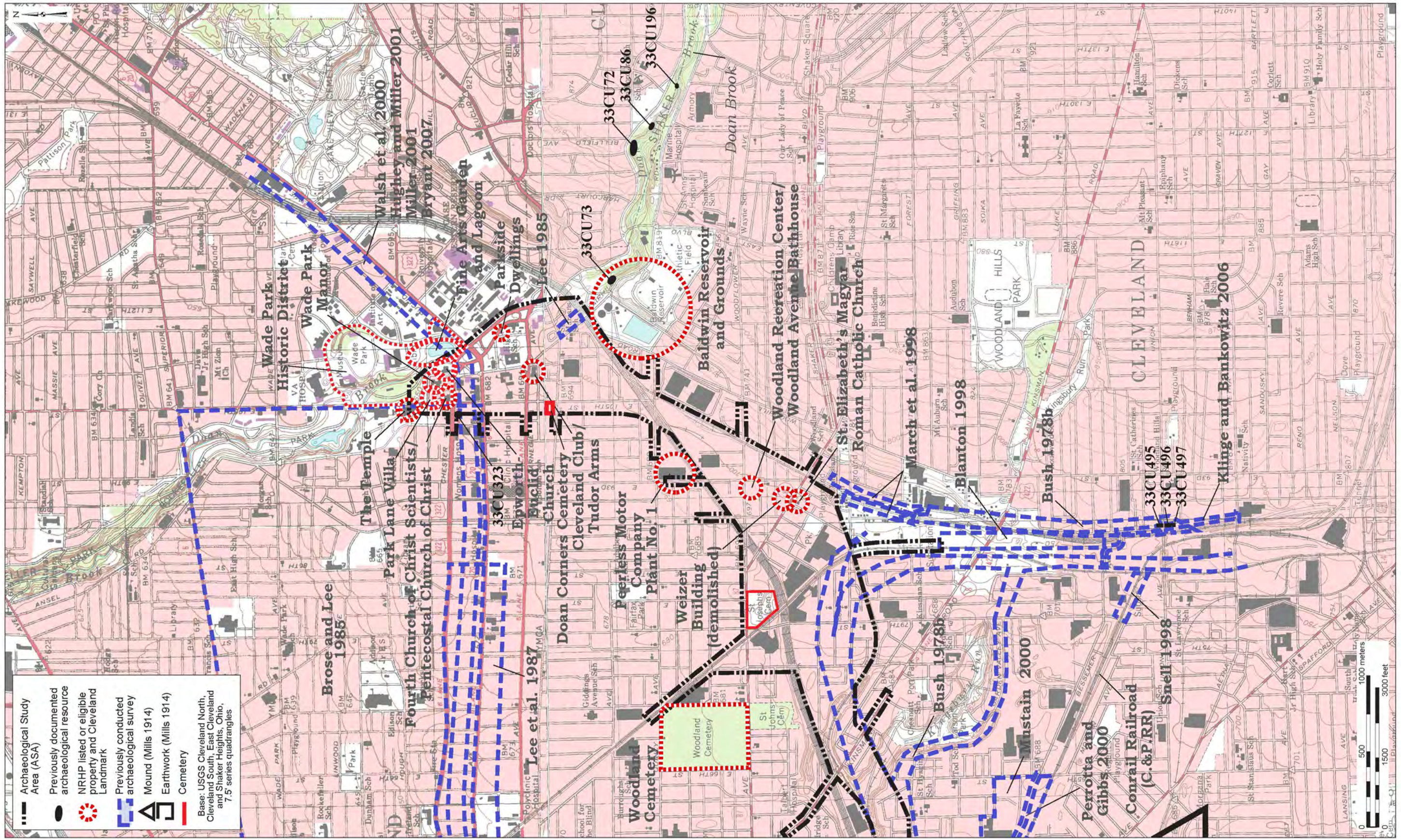


Figure 2. Portions of the 1992 Cleveland North, Ohio; 1984 Cleveland South, Ohio; 1979 East Cleveland, Ohio; and 1979 Shaker Heights, Ohio quadrangles (USGS 7.5' topographic maps) showing the Opportunity Corridor archaeological study area, the National Register of Historic Places properties and Cleveland Landmarks within it, and the previously documented archaeological resources and previously conducted archaeological surveys within it and nearby. (2 Sheets)



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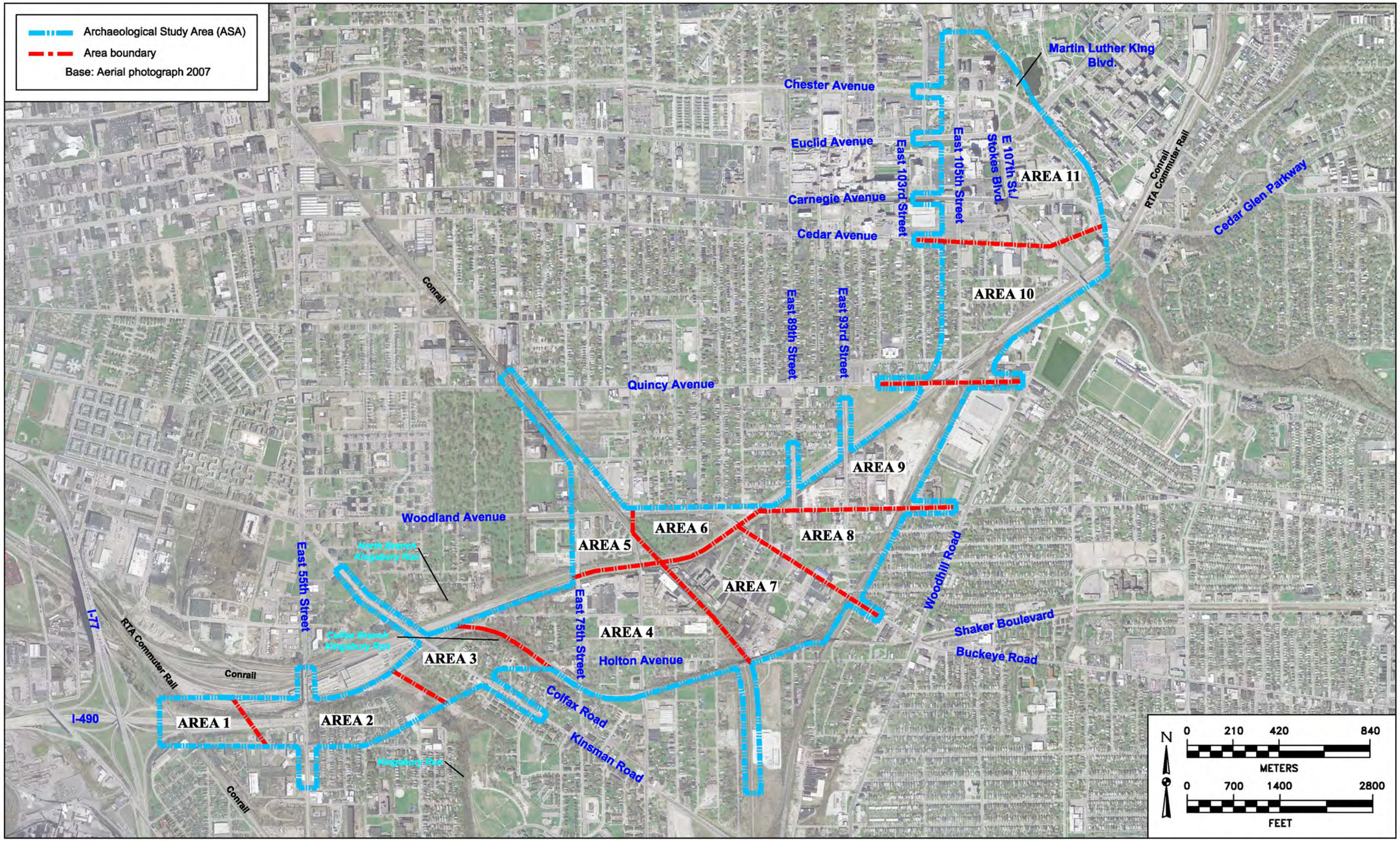


Figure 3. Aerial photograph showing the Opportunity Corridor archaeological study area.

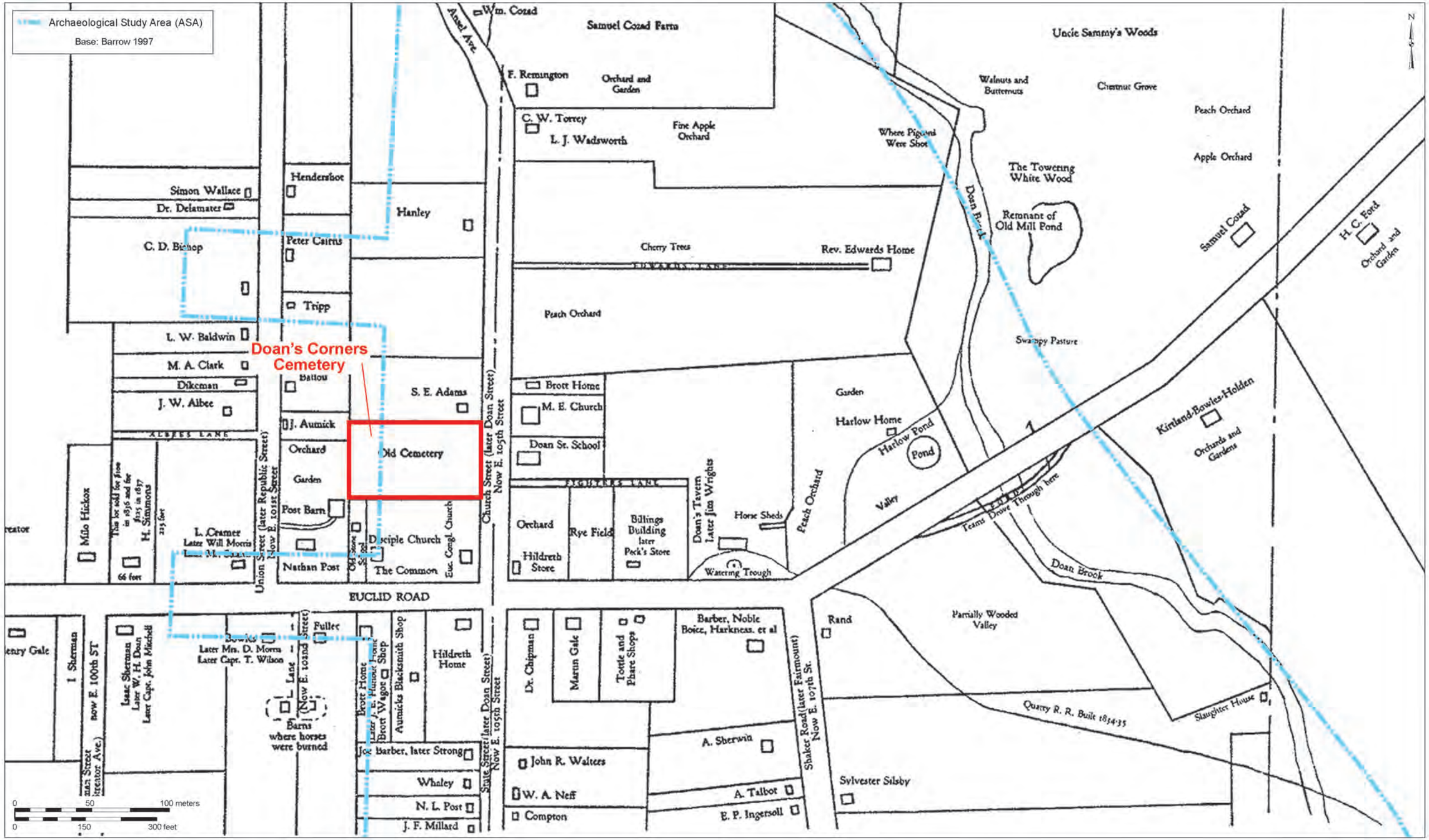


Figure 4. Charles Asa Post's 1930 map of ca. 1857 Doan's Corners (Barrow 1997) showing the Opportunity Corridor archaeological study area.

Figure 5. Portion of Map of Cuyahoga County, Ohio (Blackmore 1852) showing the Opportunity Corridor archaeological study area.

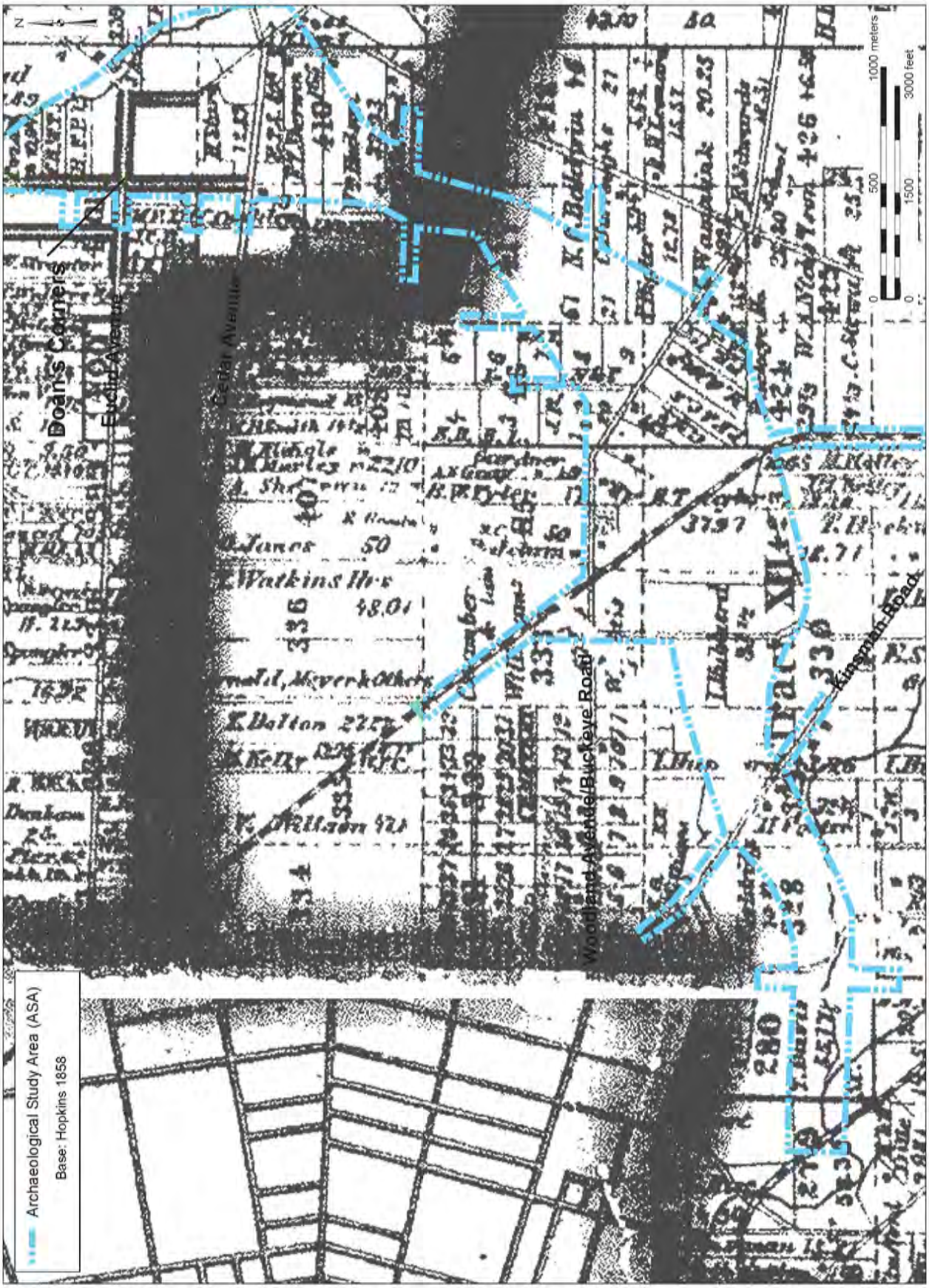


Figure 6. Portion of Map of Cuyahoga County, Ohio (Hopkins 1858) showing the Opportunity Corridor archaeological study area.

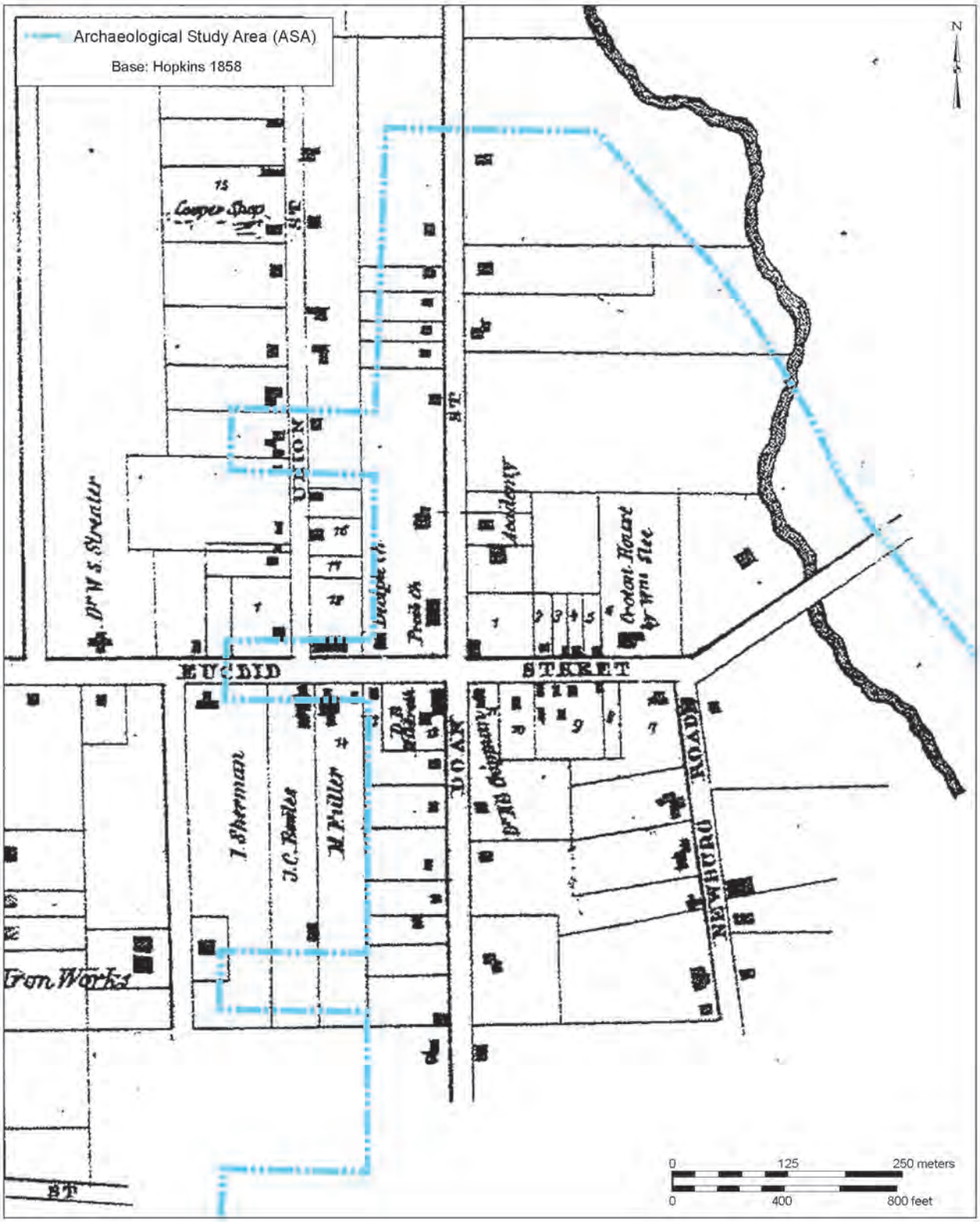


Figure 7. Map of Doan's Corners in Map of Cuyahoga County, Ohio (Hopkins 1858) showing the Opportunity Corridor archaeological study area.

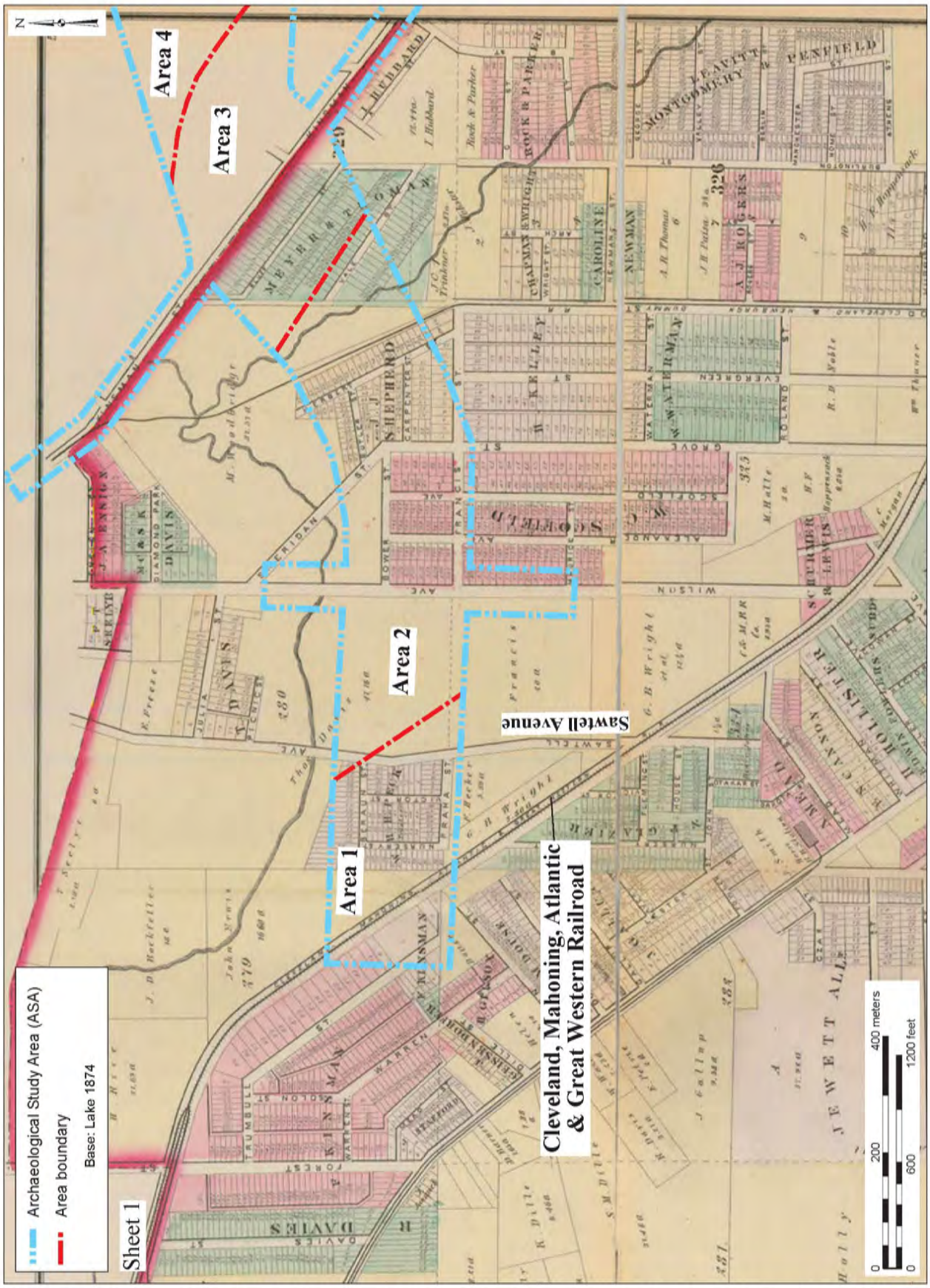


Figure 8. Portion of *Atlas of Cuyahoga County, Ohio* (Lake 1874) showing the Opportunity Corridor archaeological study area. (5 Sheets)

Archaeological Study Area (ASA)
Area boundary
Base: Lake 1874

Sheet 2

Area 2

Area 3

Area 4

Area 5

Area 6

Area 7

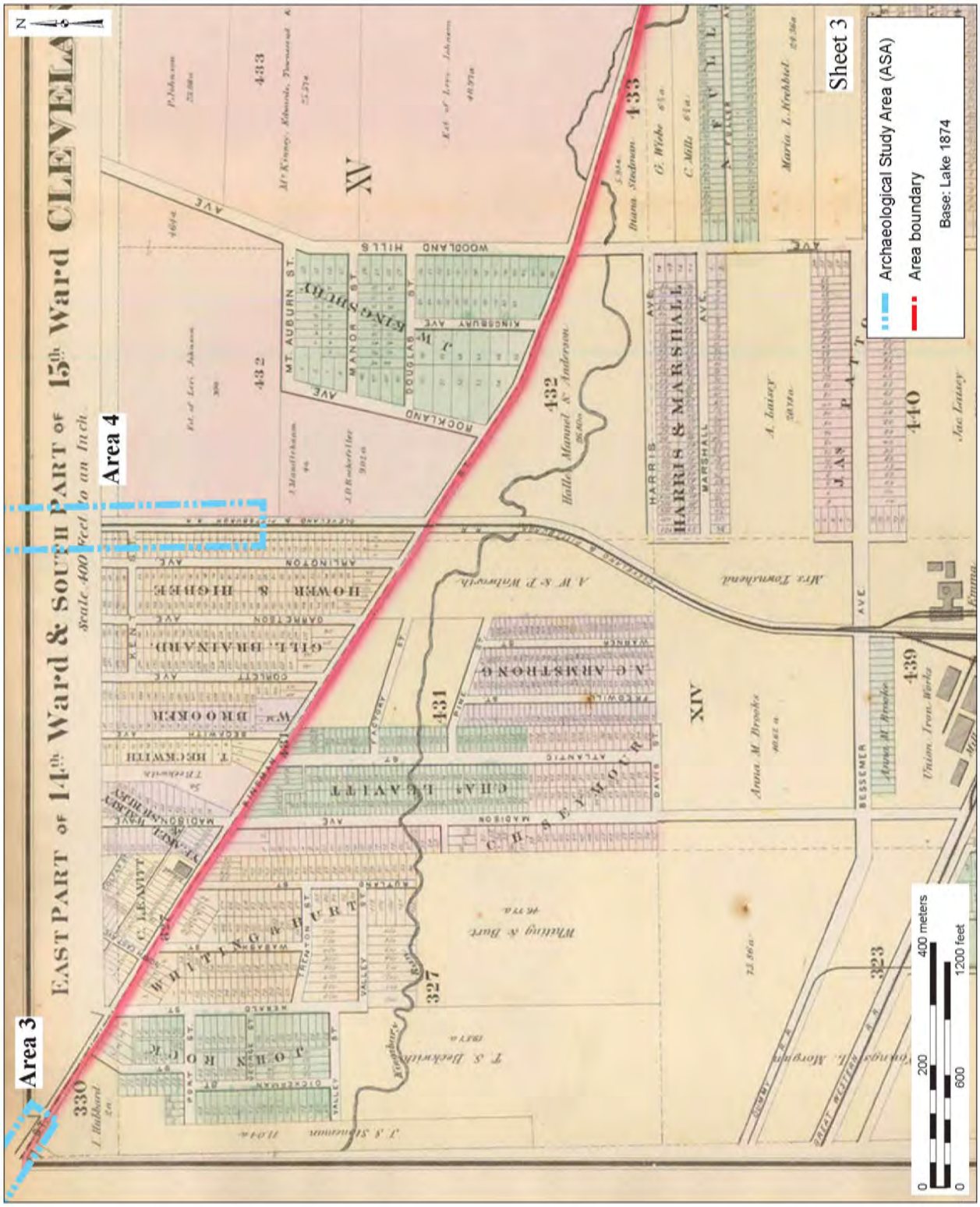
Area 8

Area 9

NORTH PART OF THE 15th Ward OF CLEVELAND

0 200 400 meters
0 600 1200 feet

Figure 8. Portion of *Atlas of Cuyahoga County, Ohio* (Lake 1874) showing the Opportunity Corridor archaeological study area. (5 Sheets)



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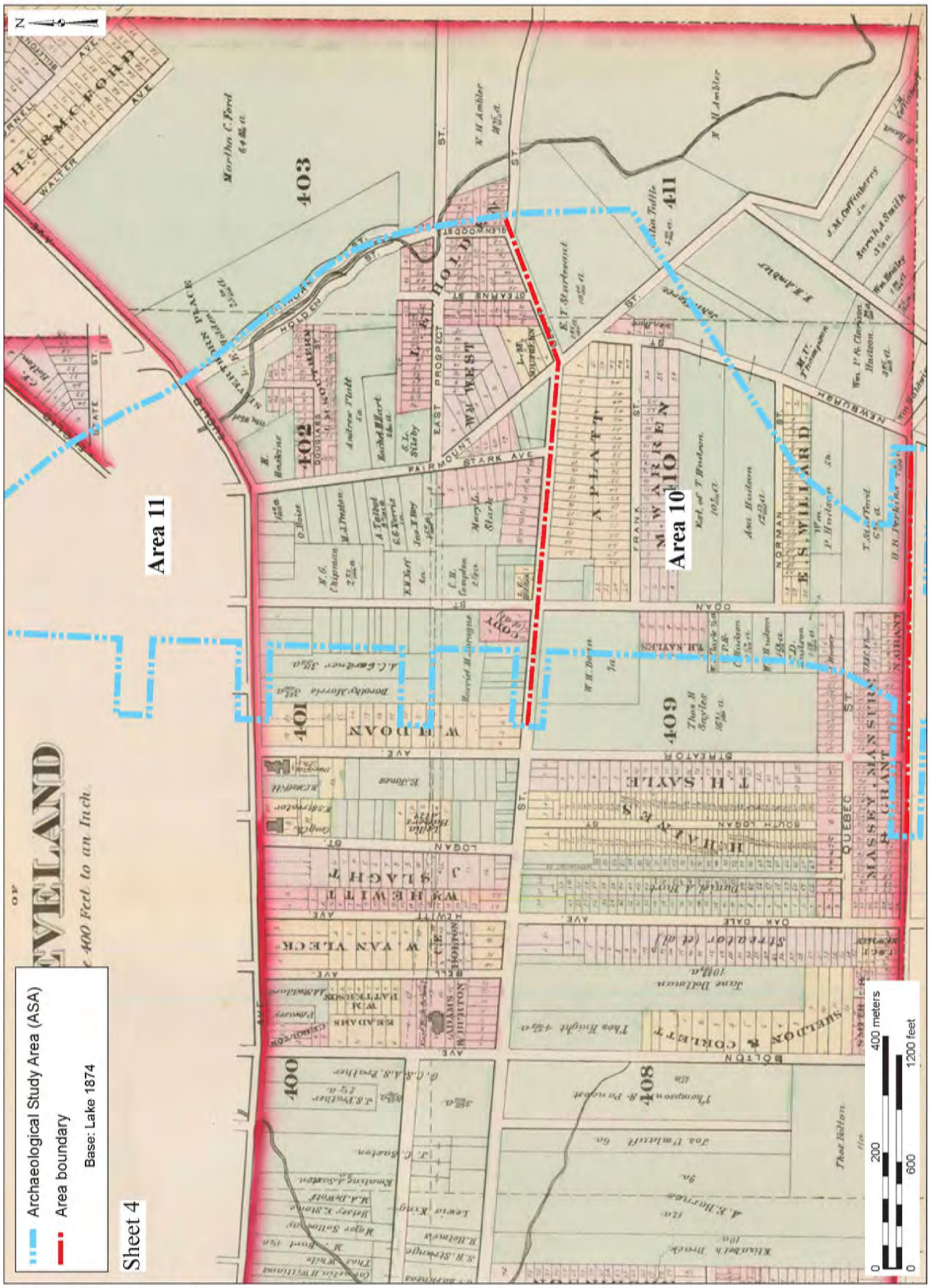

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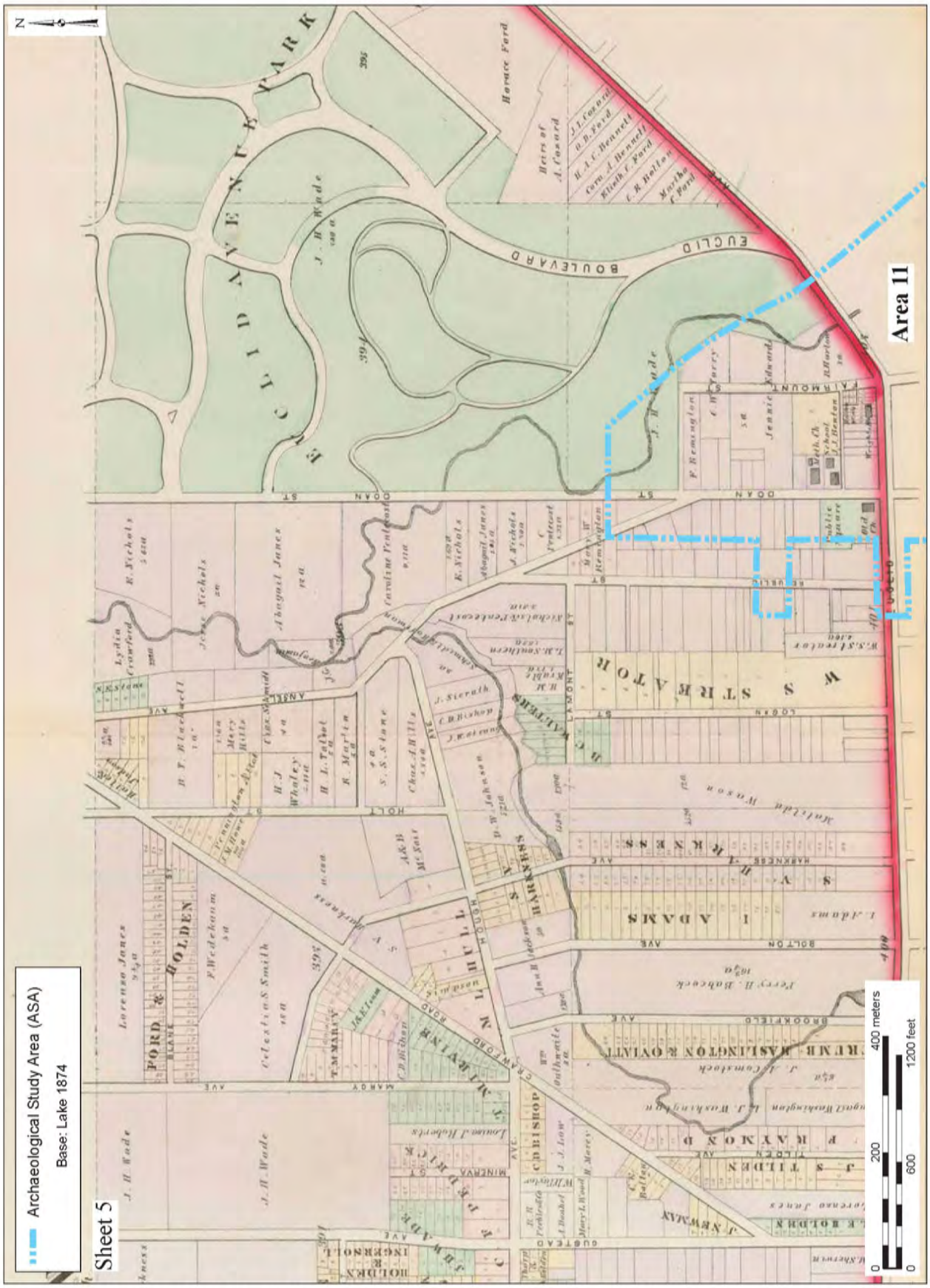

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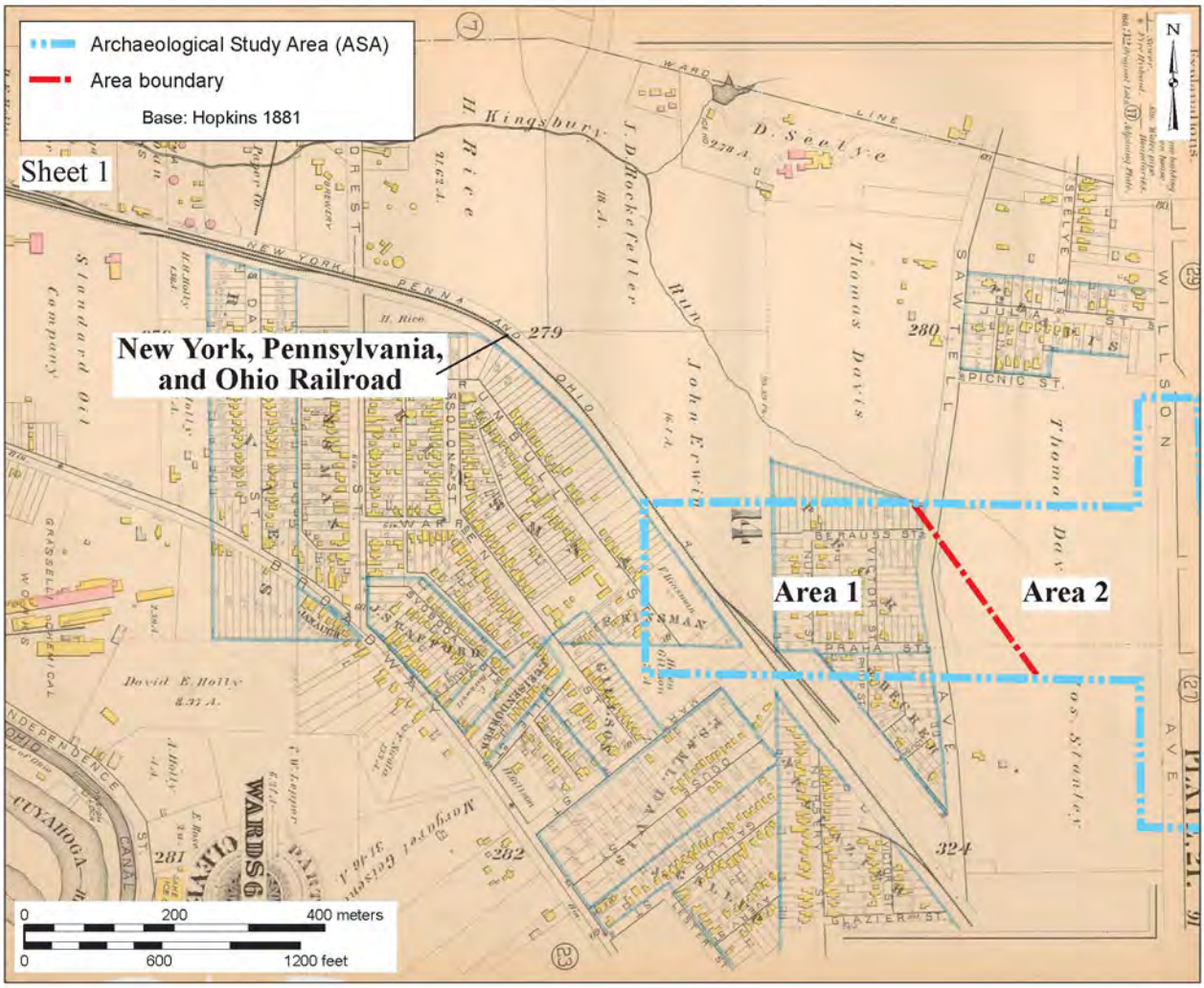

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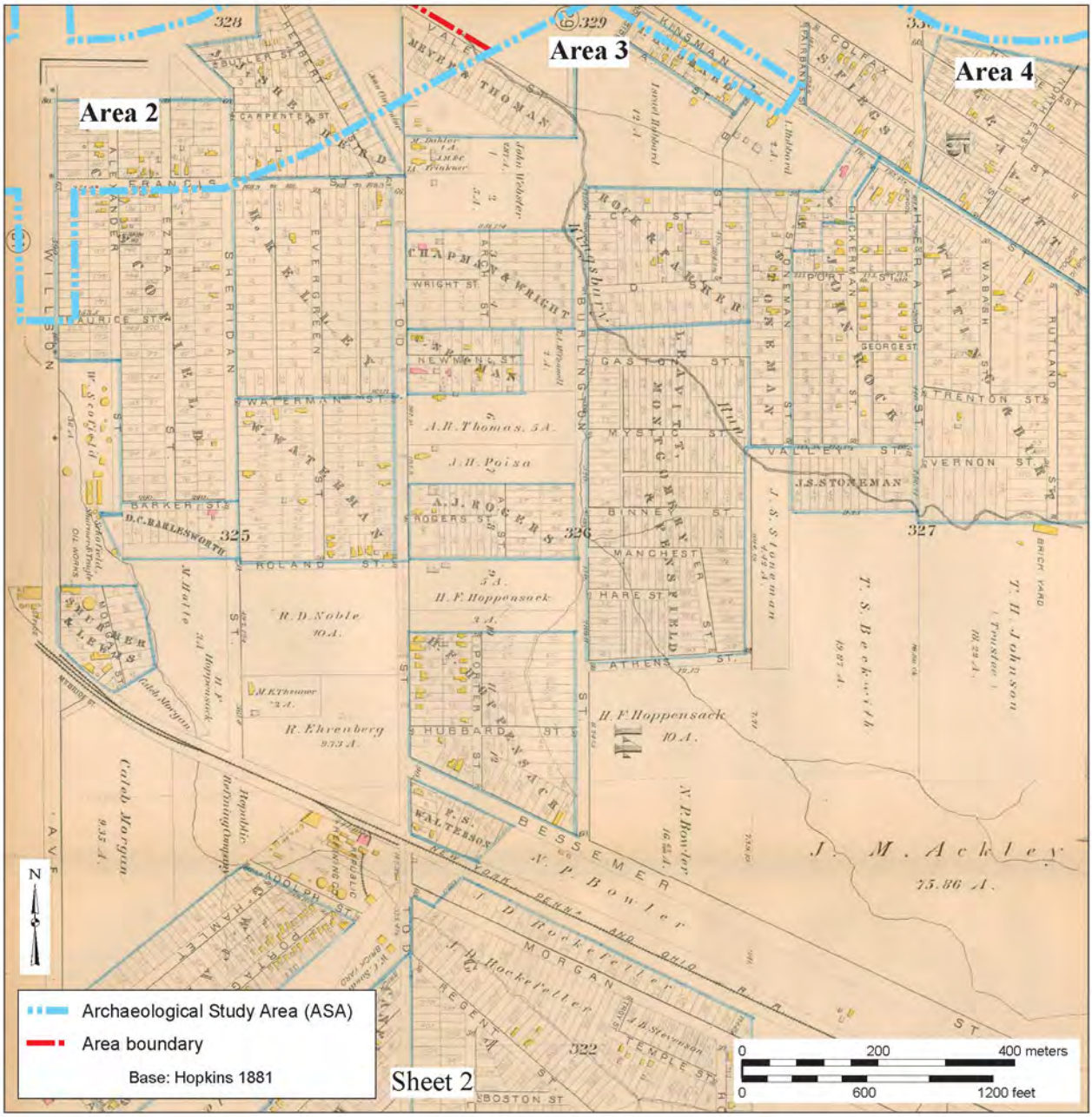

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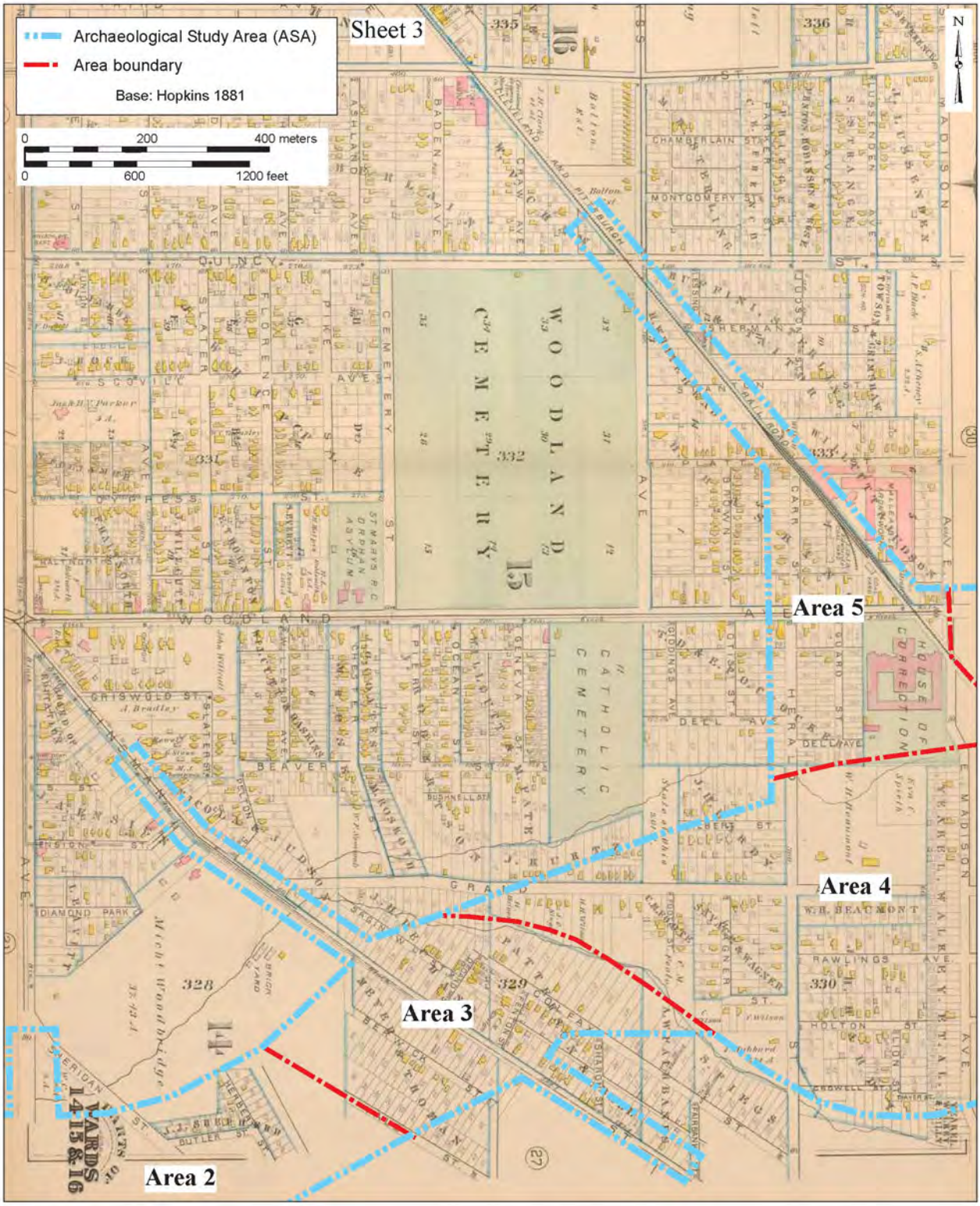

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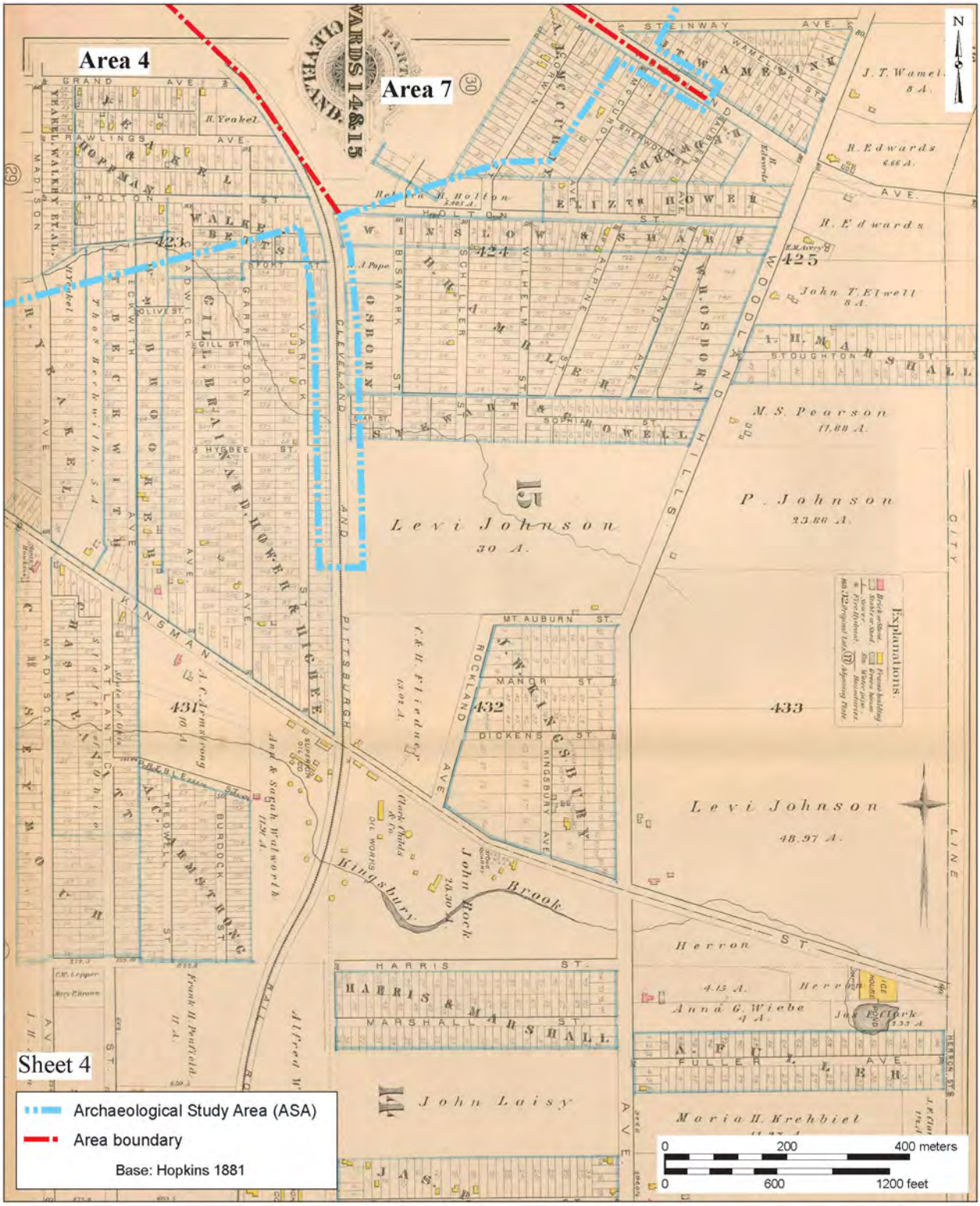

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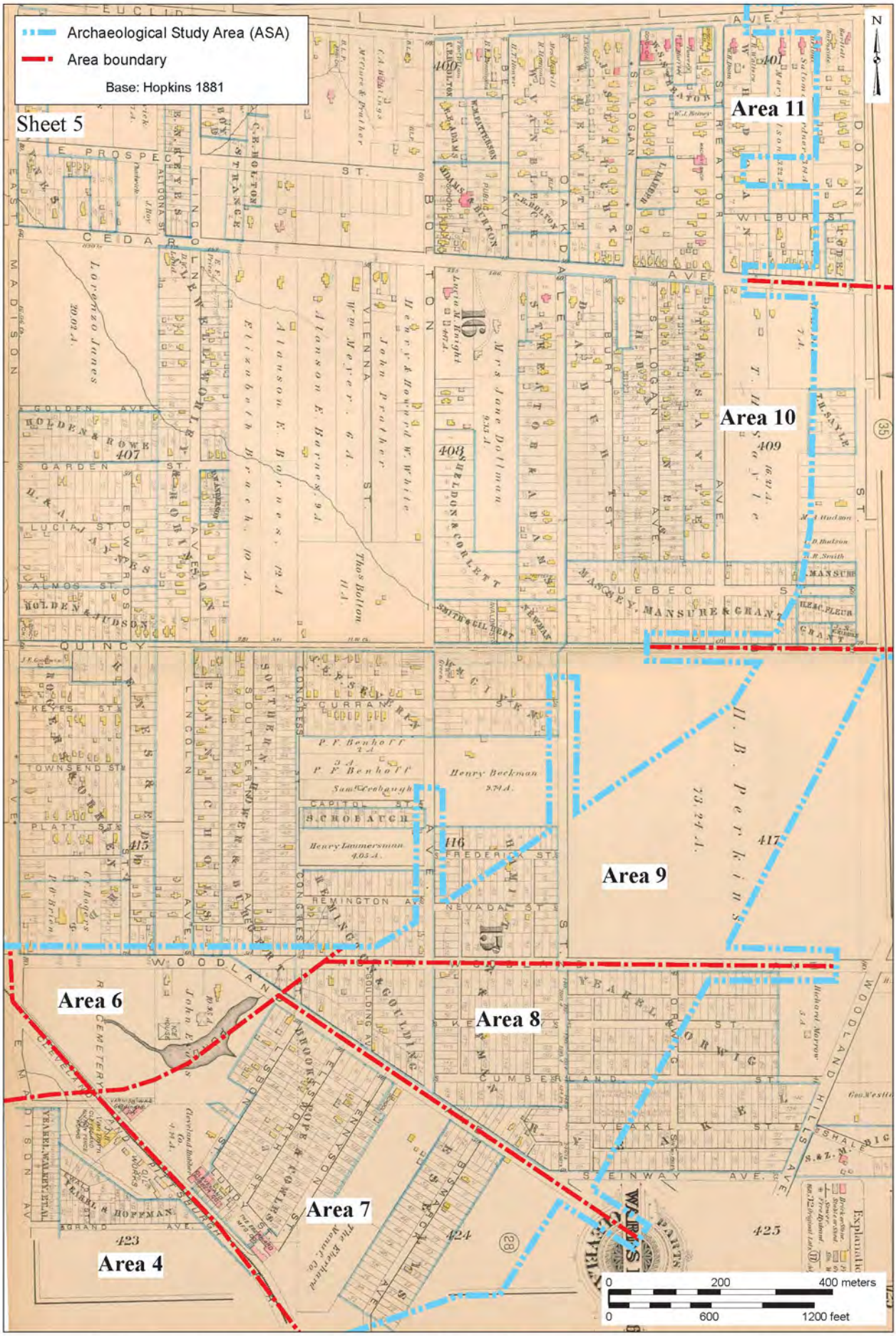

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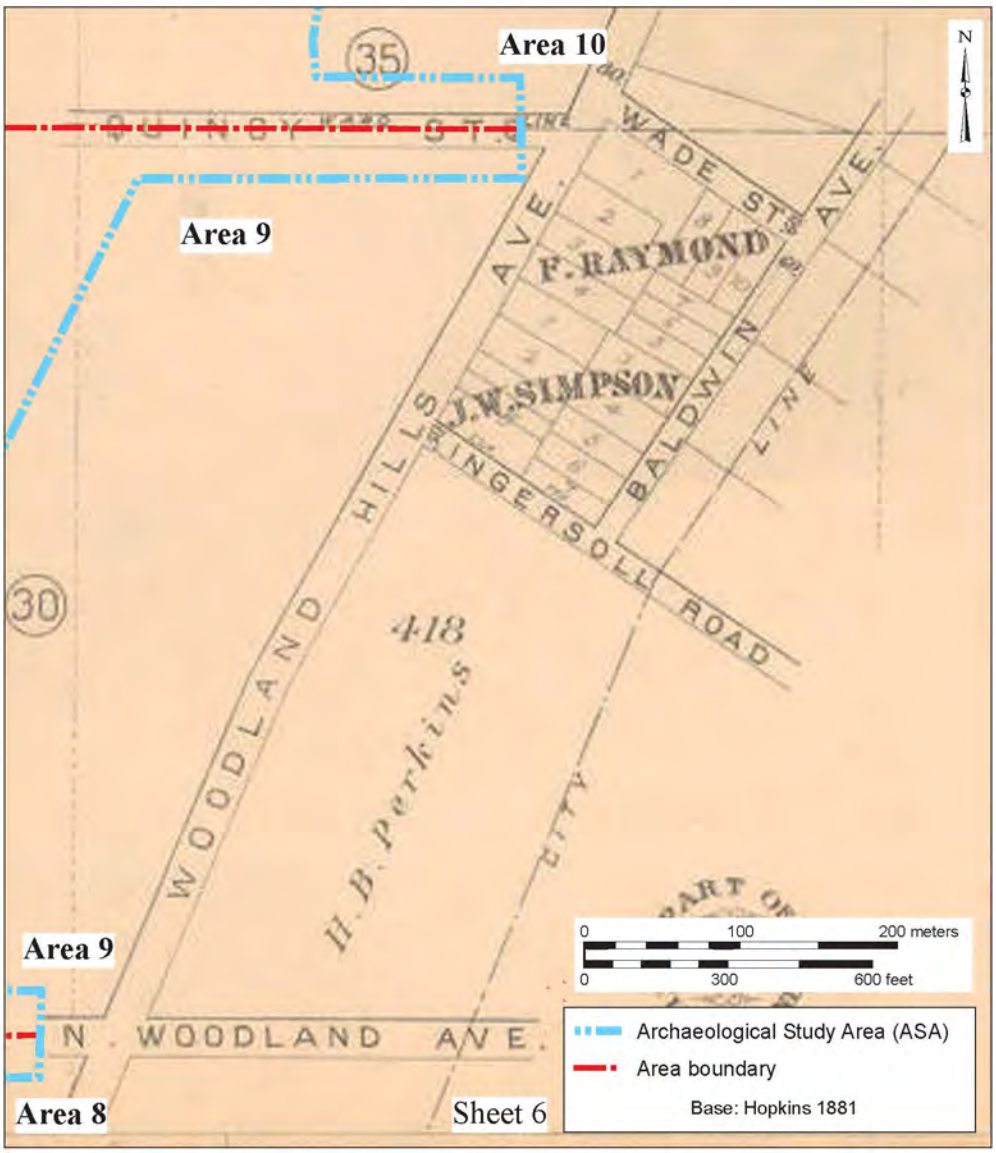

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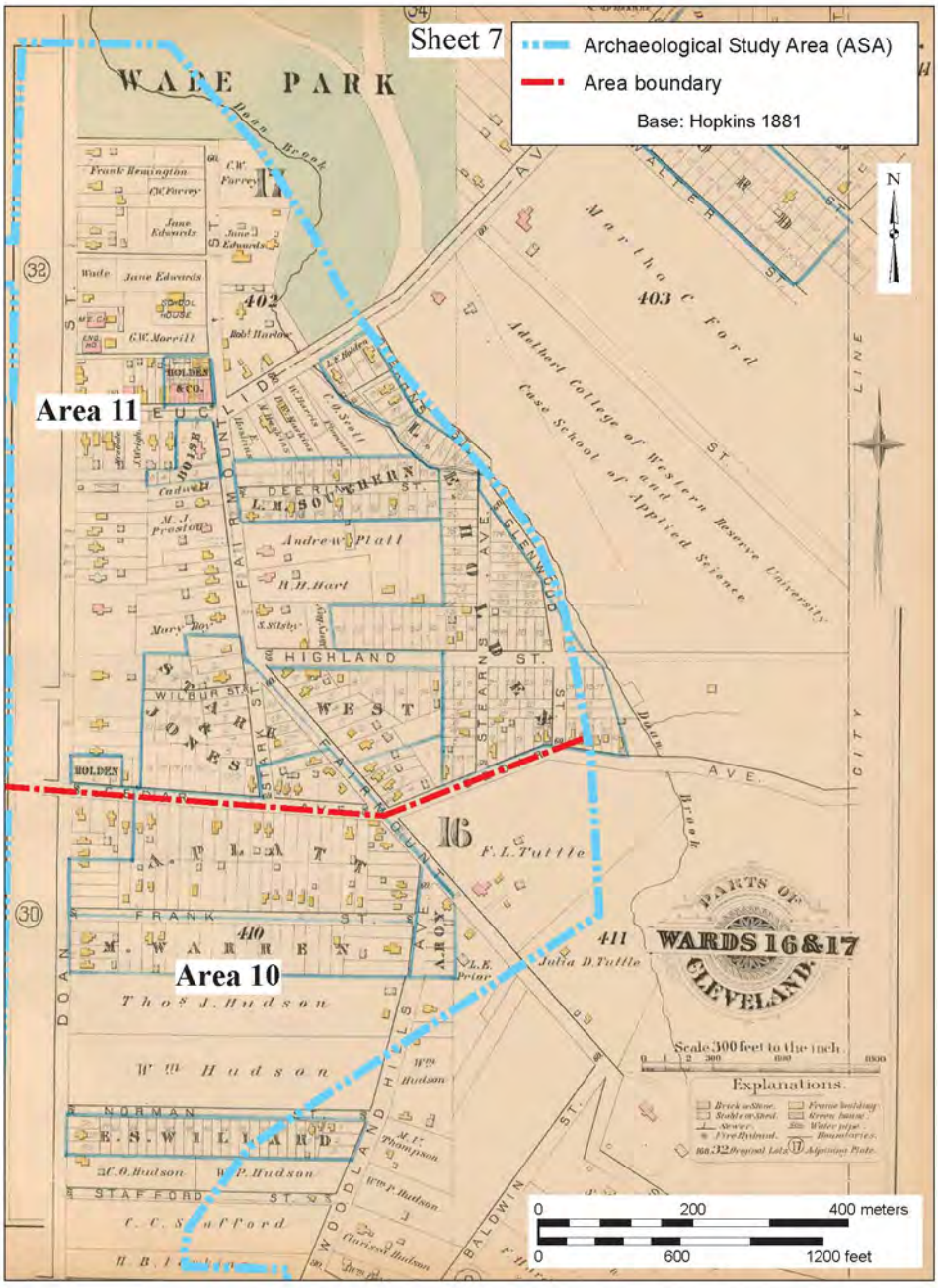

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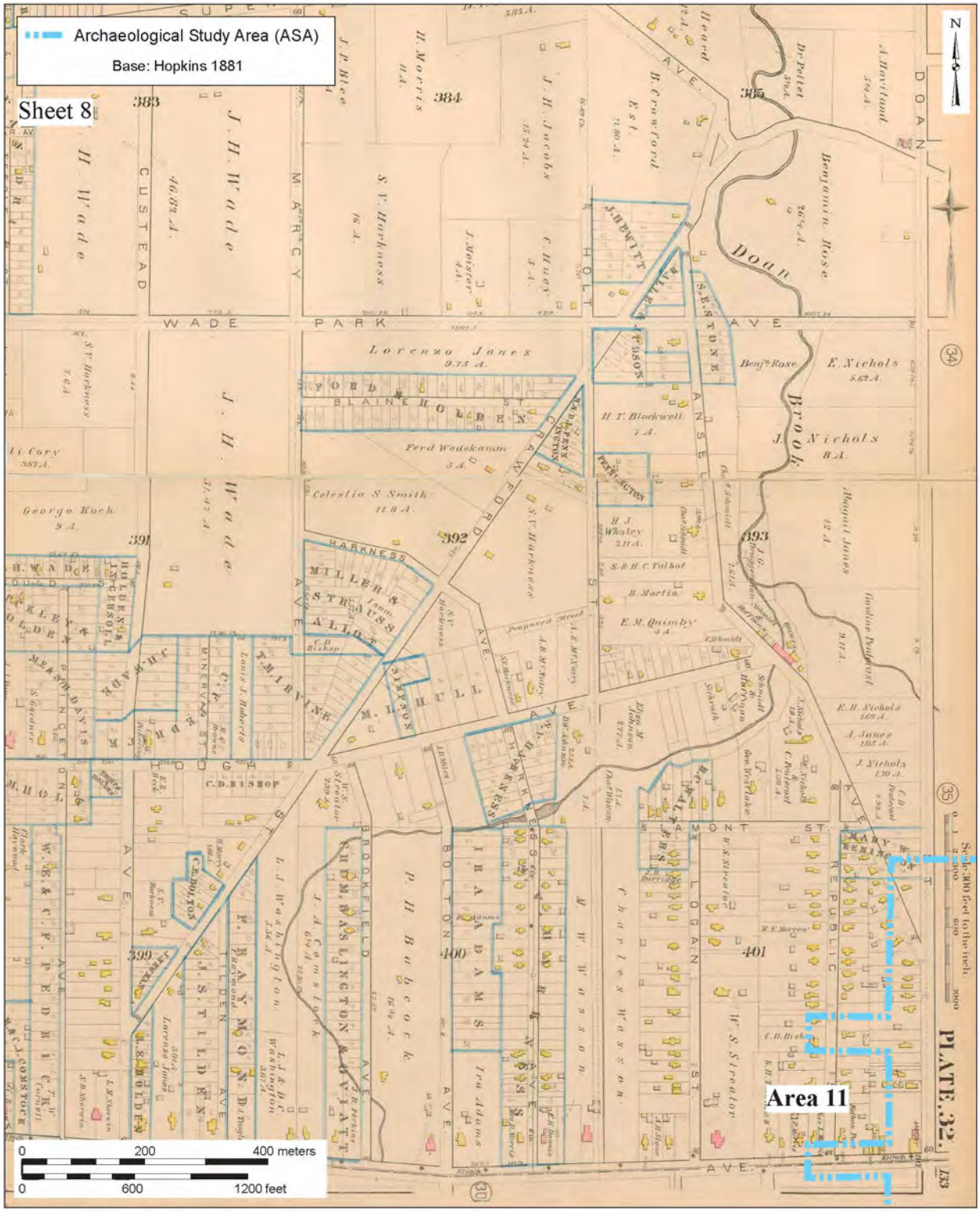

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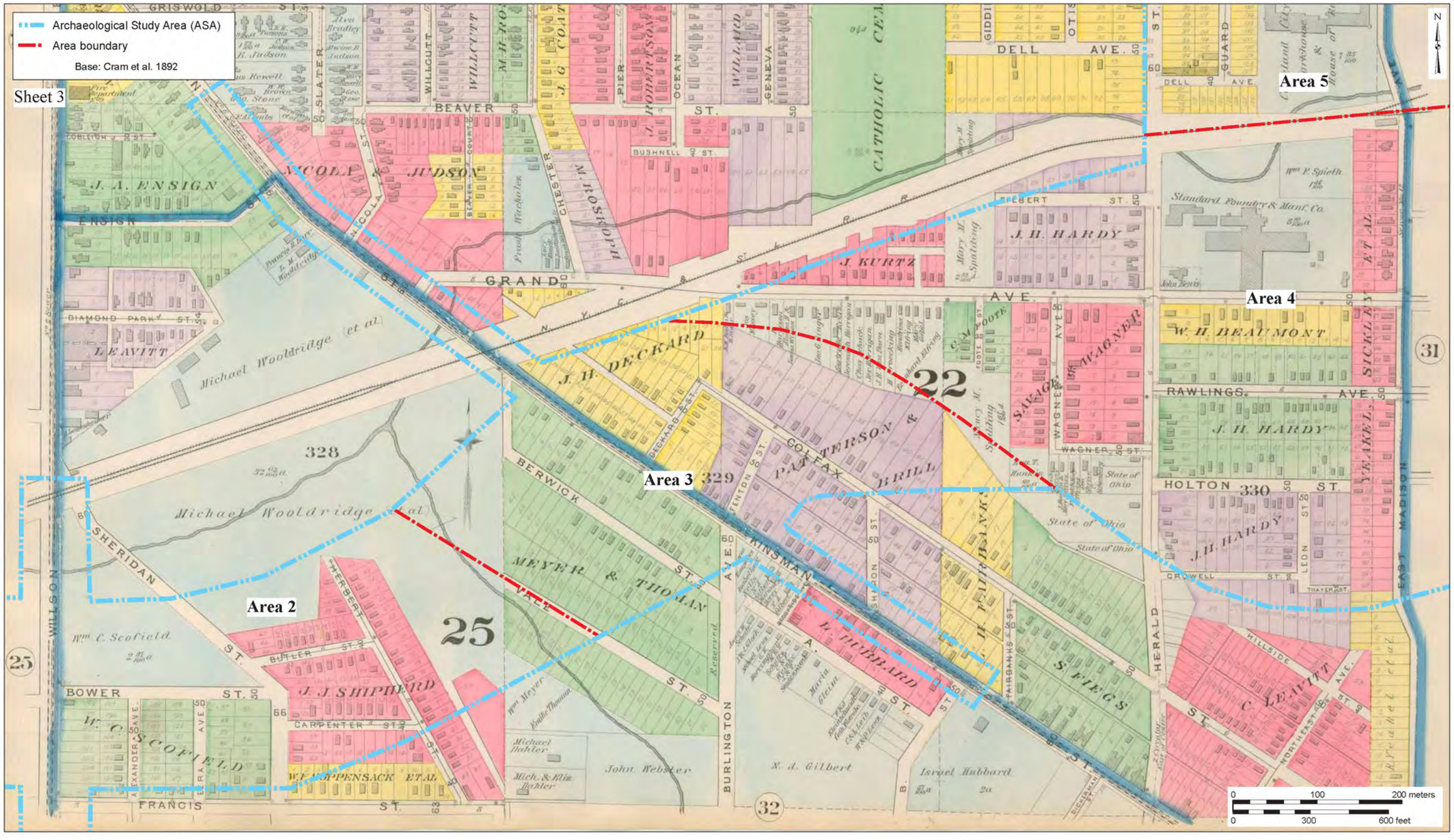

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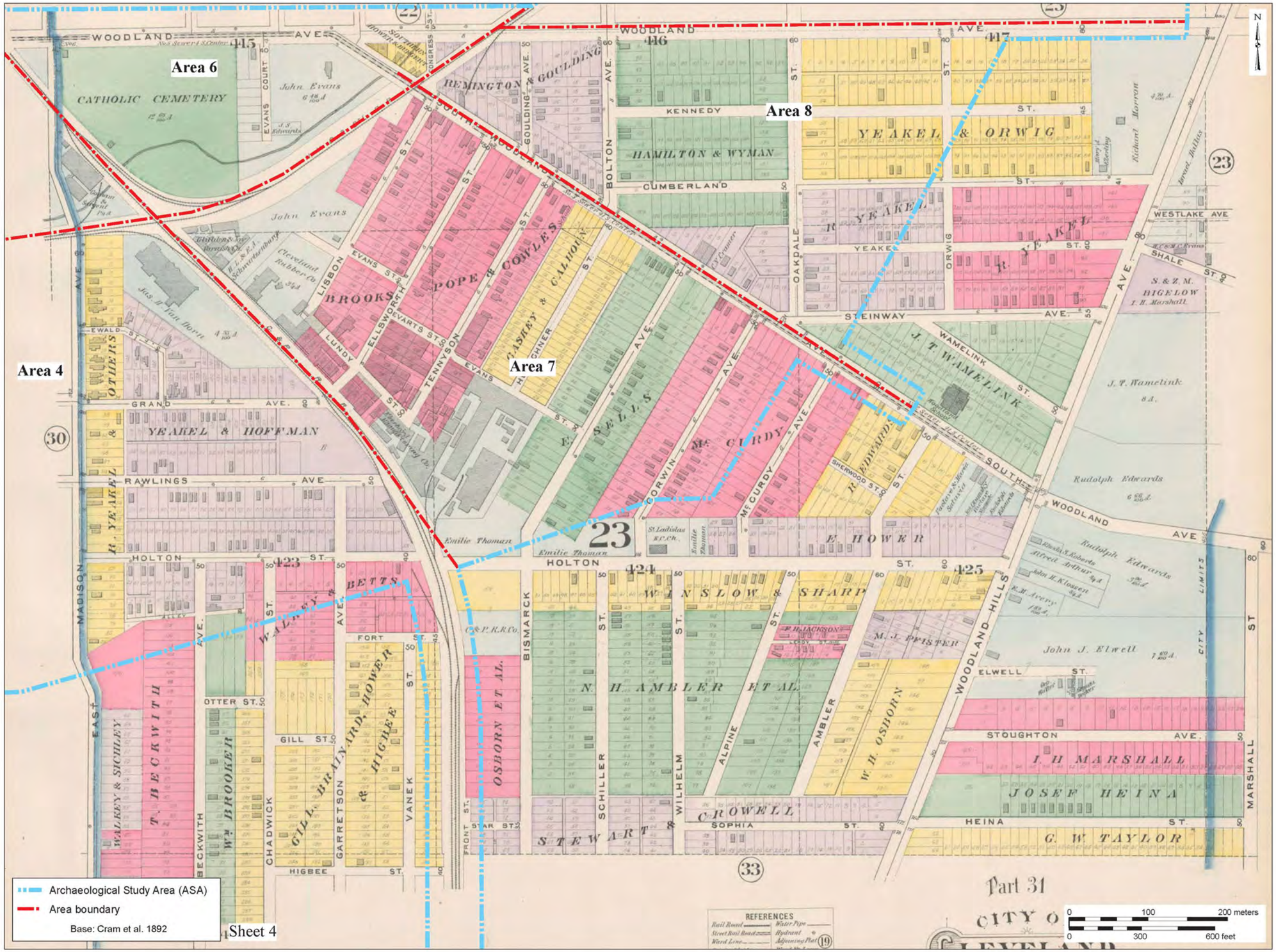

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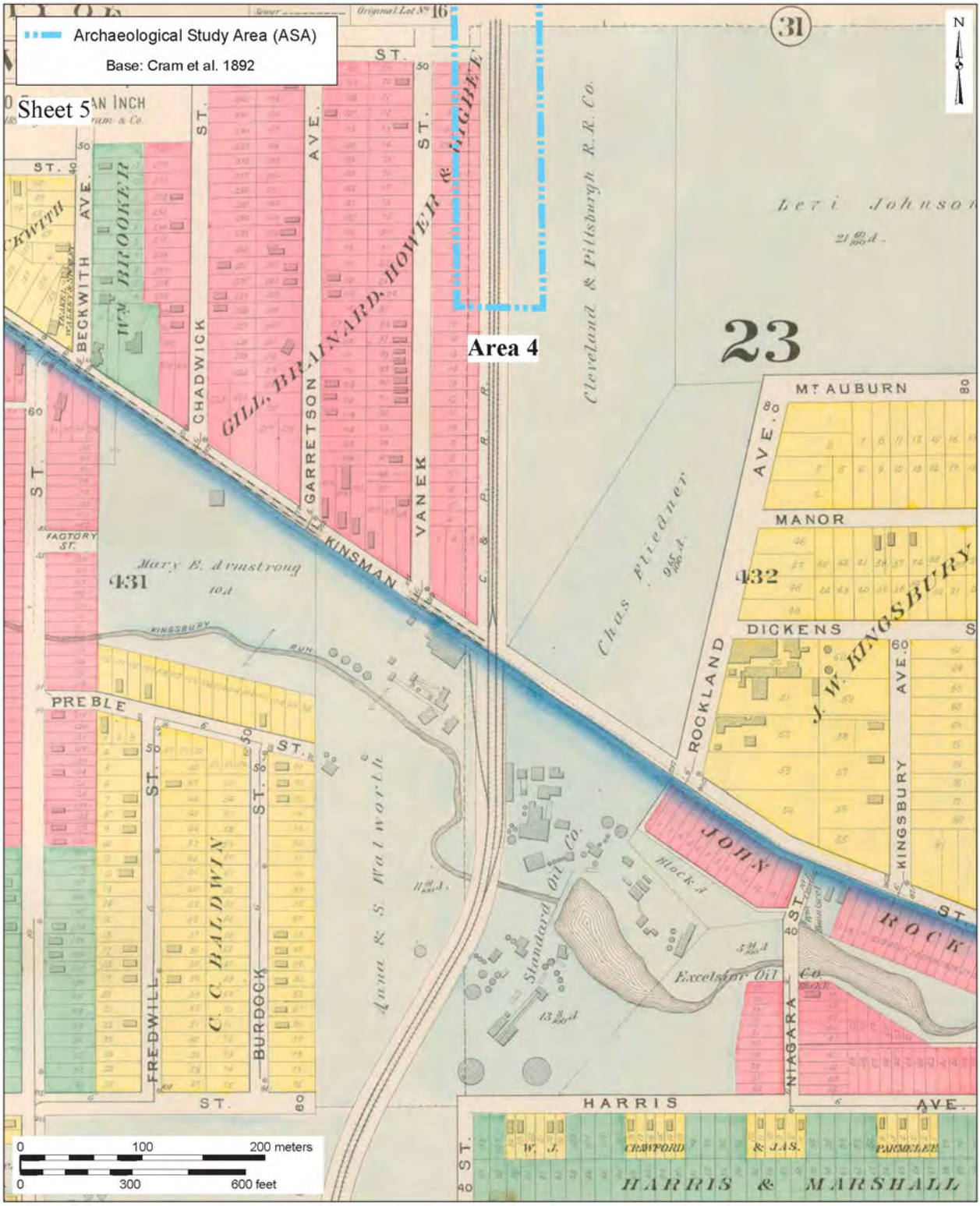

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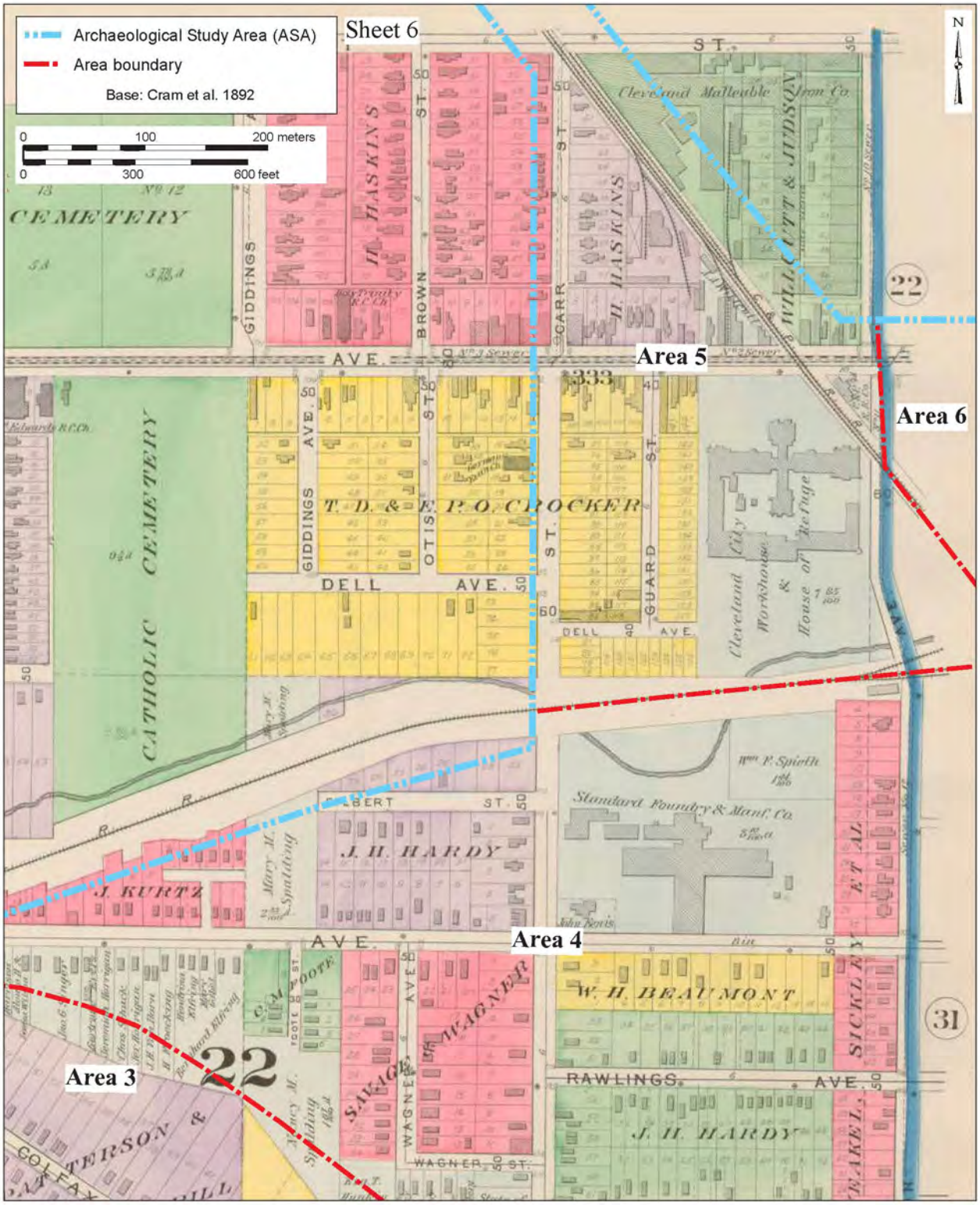

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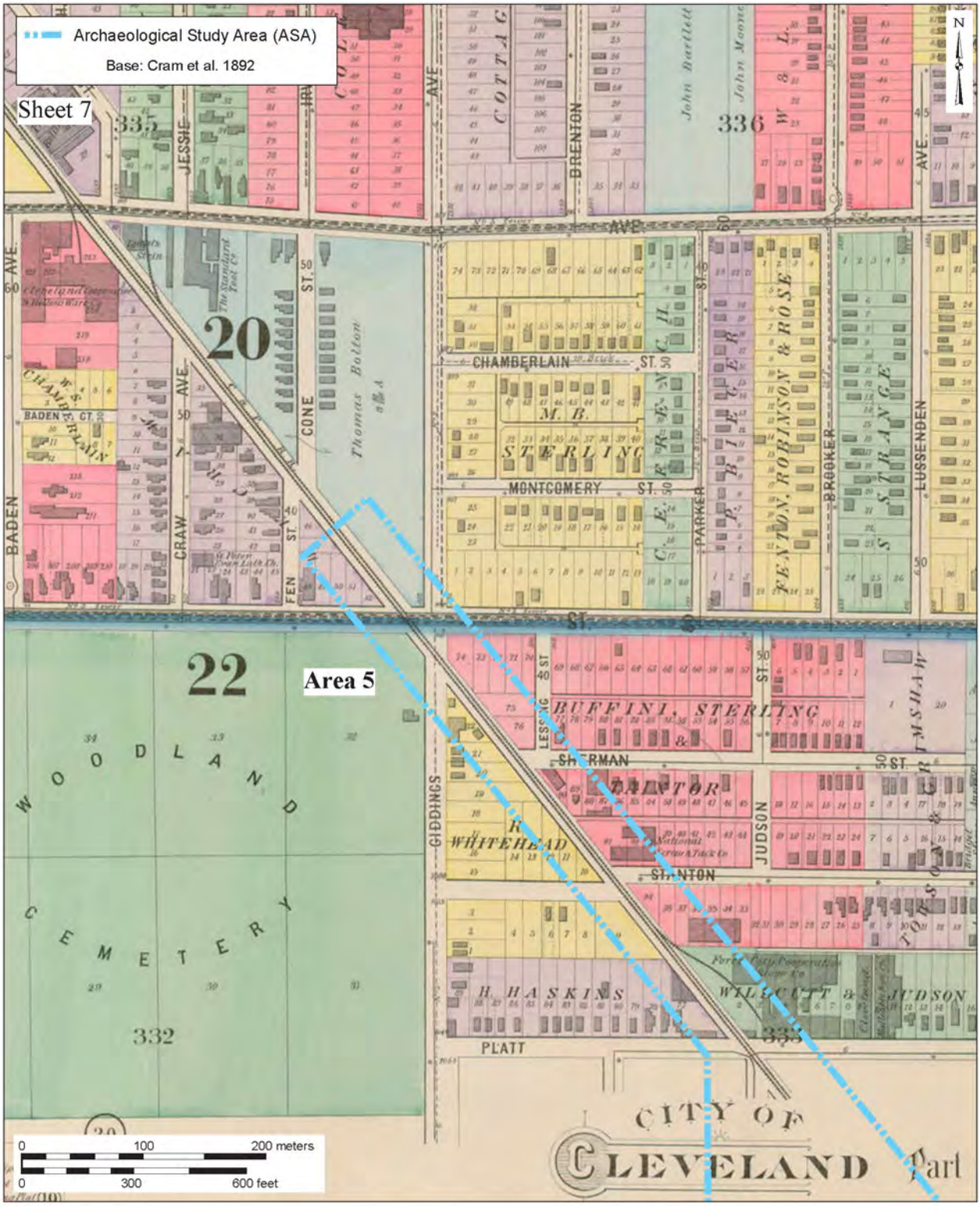

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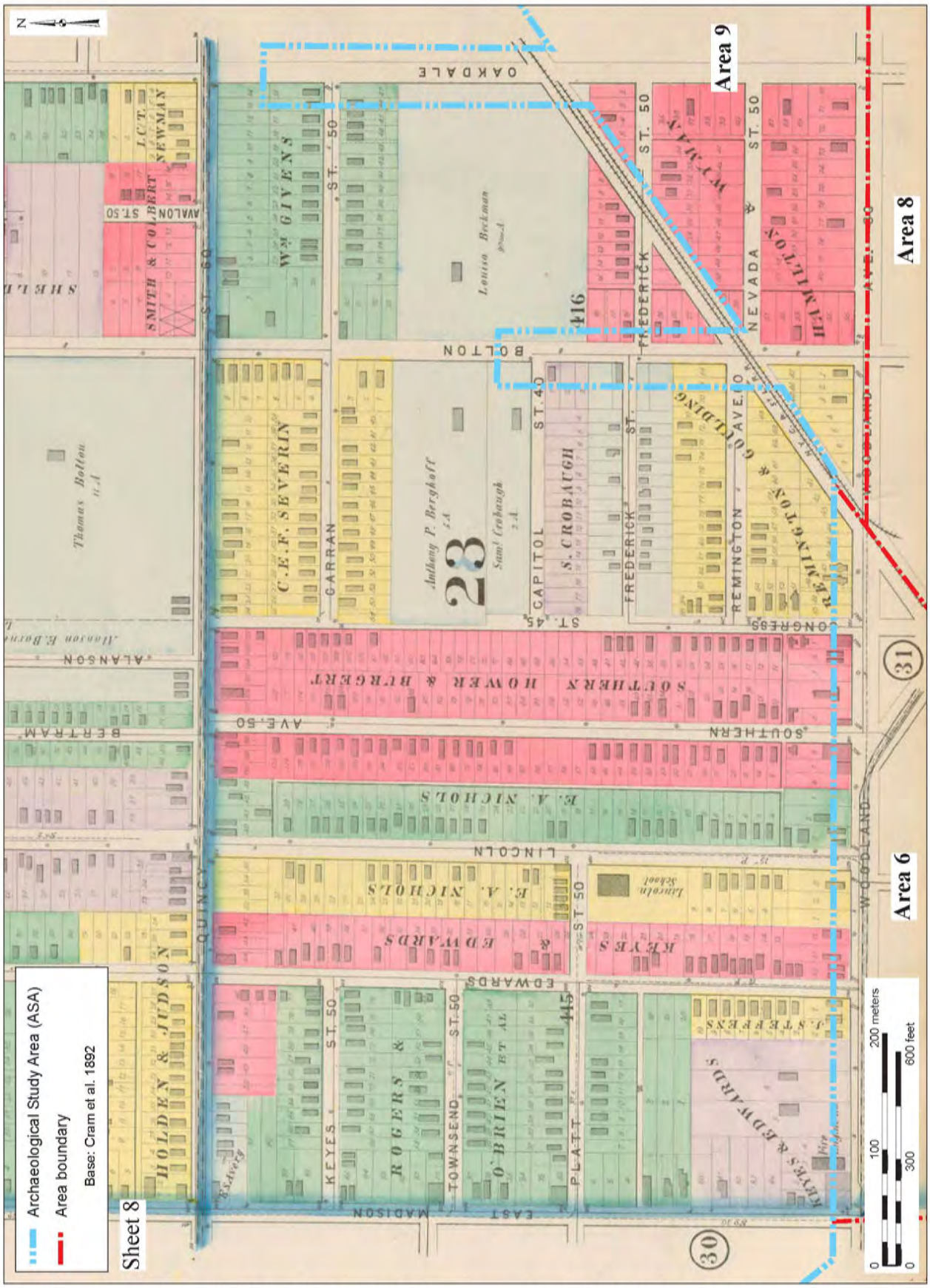

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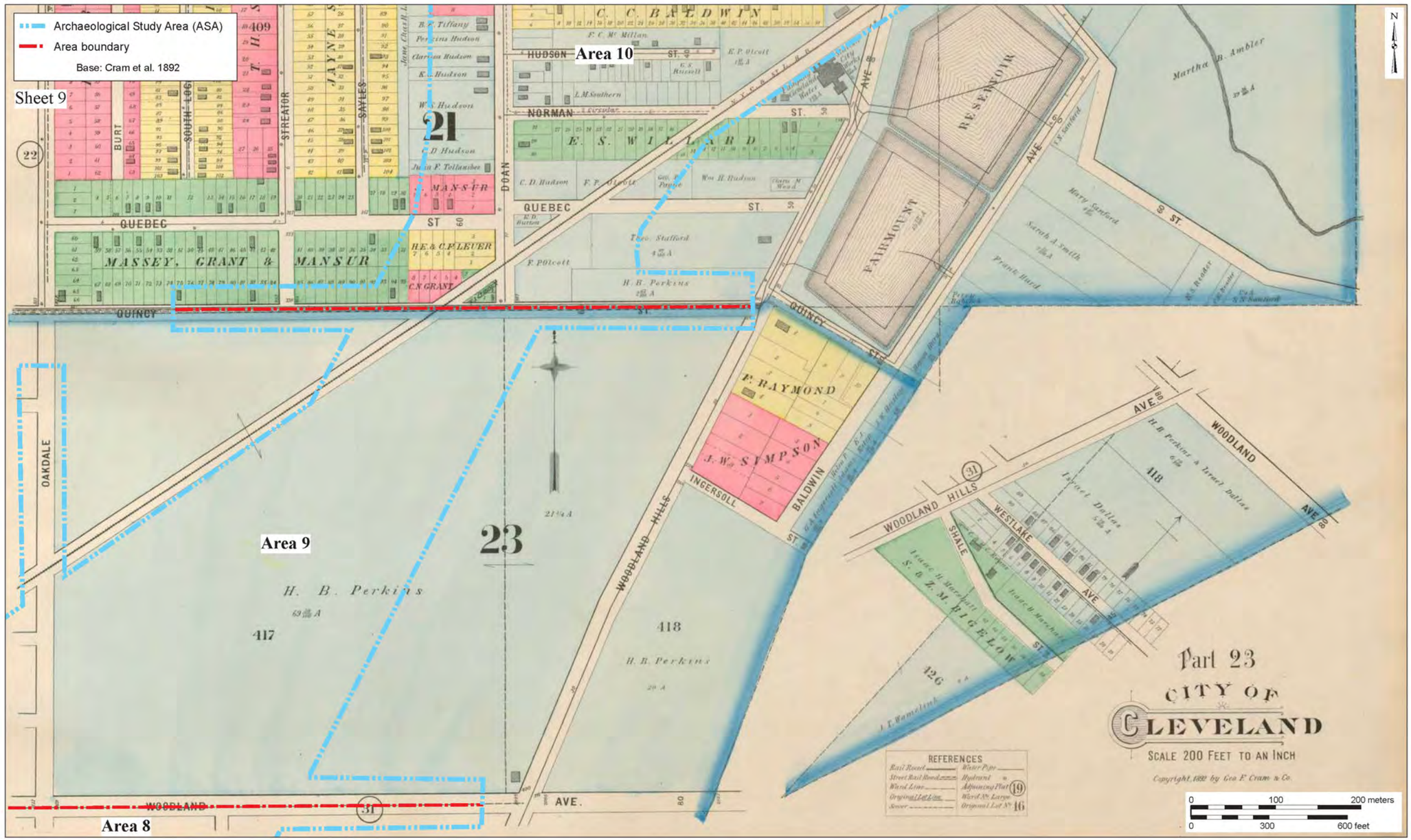

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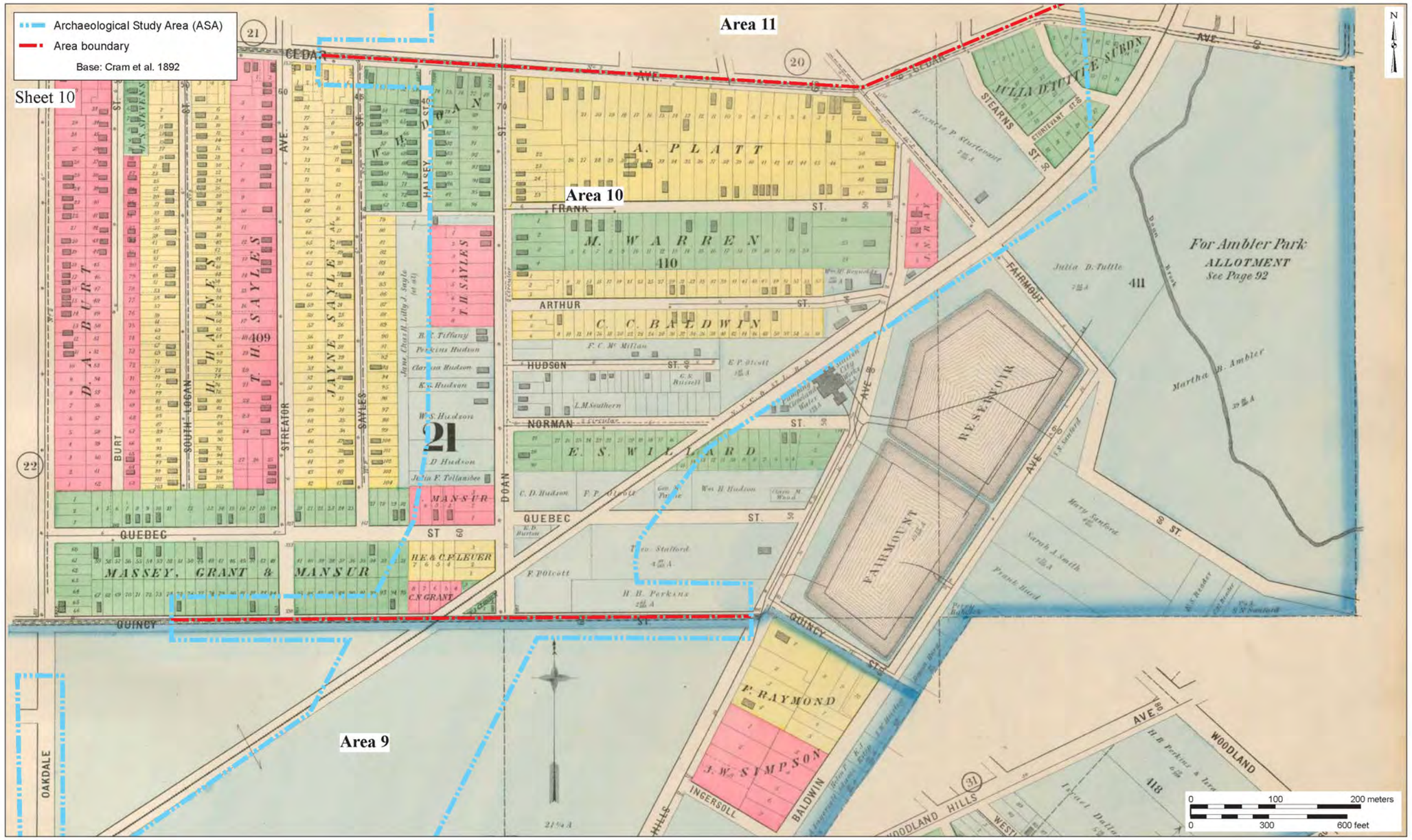

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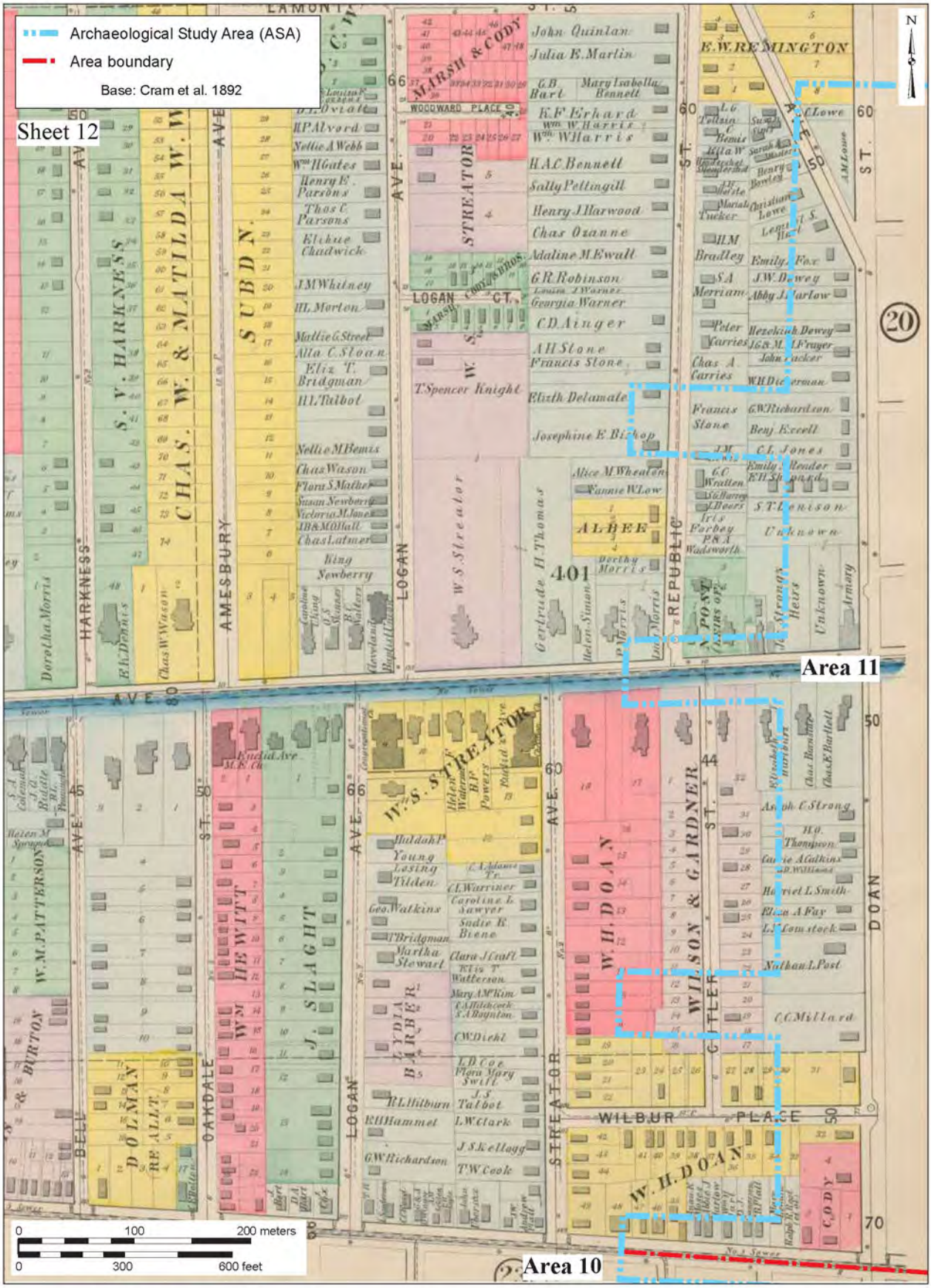

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Figure 11. Portion of the 1896 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery 2009) showing the Opportunity Corridor archaeological study area. (See enclosed envelope)

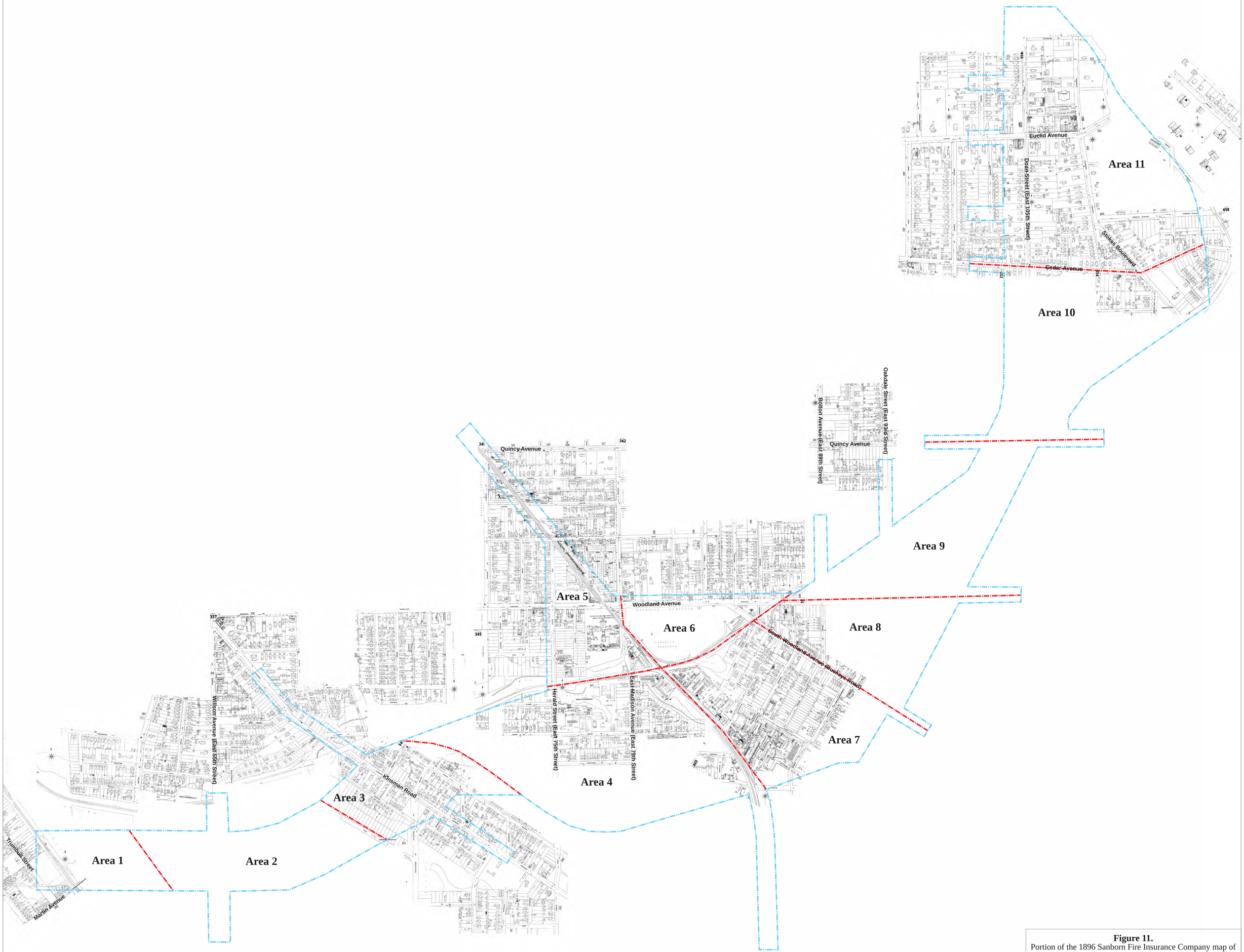

Figure 11.
Portion of the 1896 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery 2009) showing the Opportunity Corridor archaeological study area.

Archaeological Study Area (ASA)
Area boundary
Base: Sanborn Fire Insurance Company 1896

0 150 300 meters
0 450 900 feet
N

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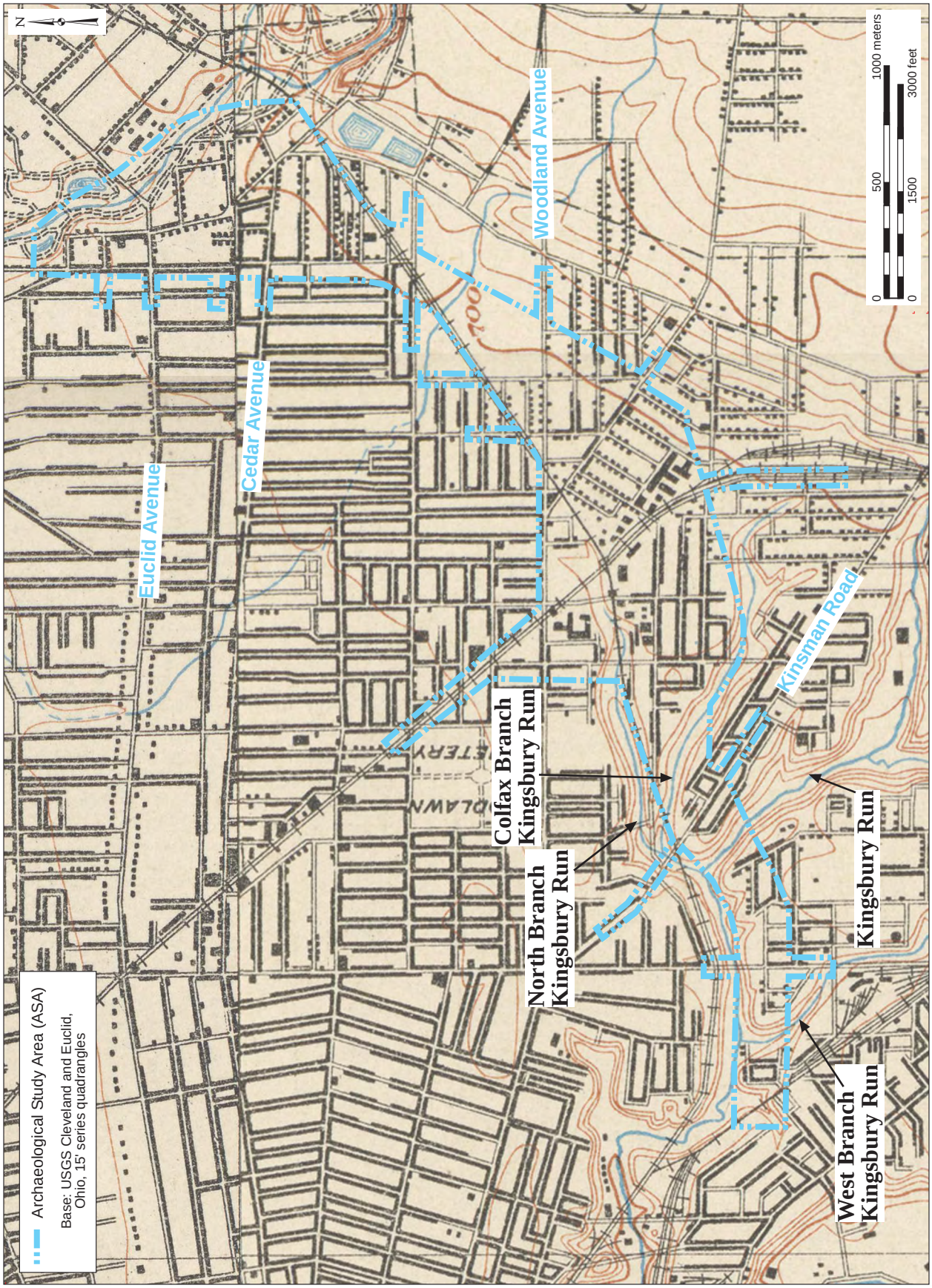

Figure 12. Portions of the 1903 Cleveland and 1903 Euclid quadrangles (USGS 15' topographic maps) showing the Opportunity Corridor archaeological study area

Figure 13. Portion of the 1913 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery 2009) showing the Opportunity Corridor archaeological study area. (See enclosed envelope)

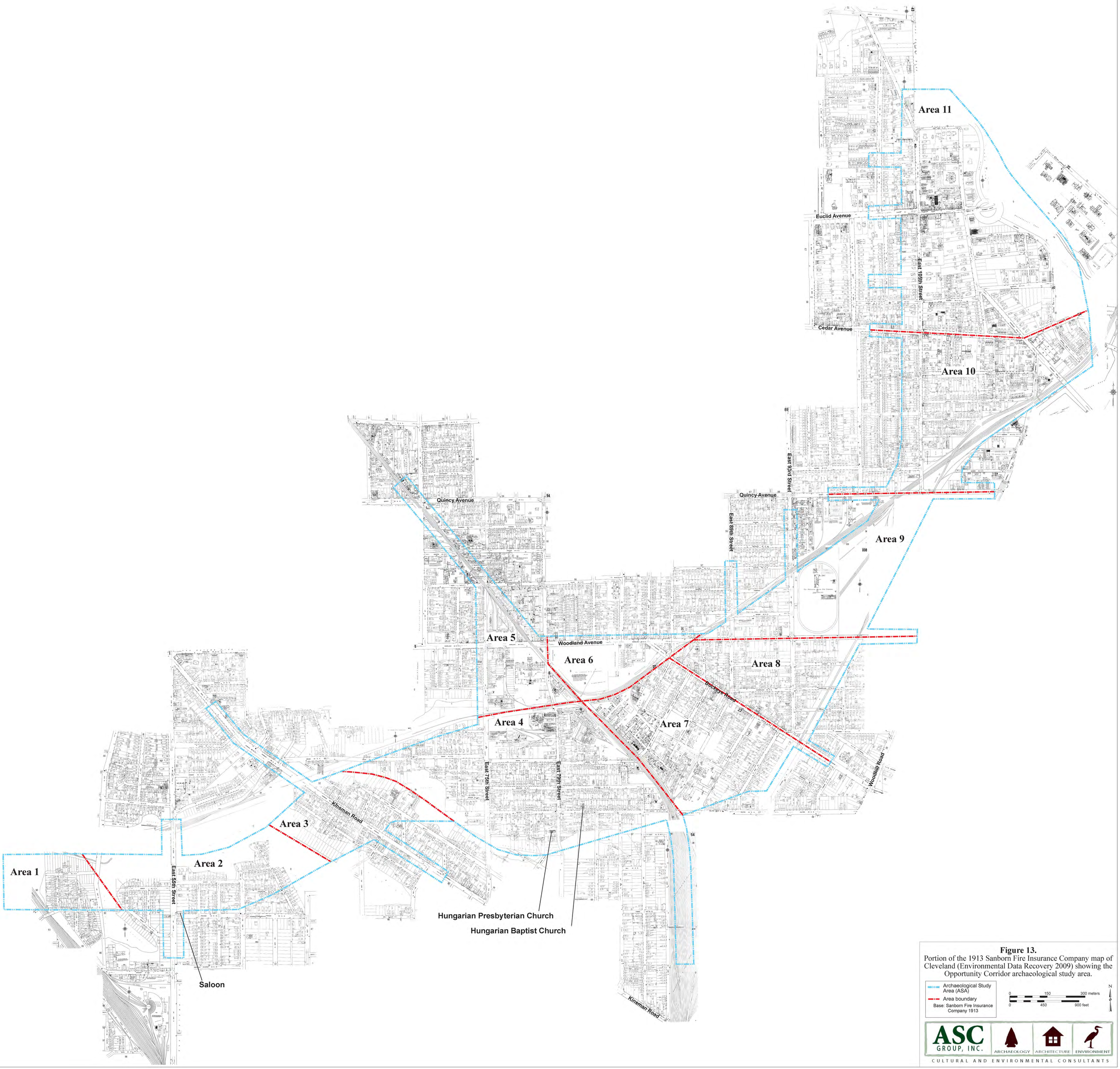

Figure 13.
Portion of the 1913 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery 2009) showing the Opportunity Corridor archaeological study area.

Figure 14. Portion of the 1951 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery 2009) showing the Opportunity Corridor archaeological study area. (See enclosed envelope)

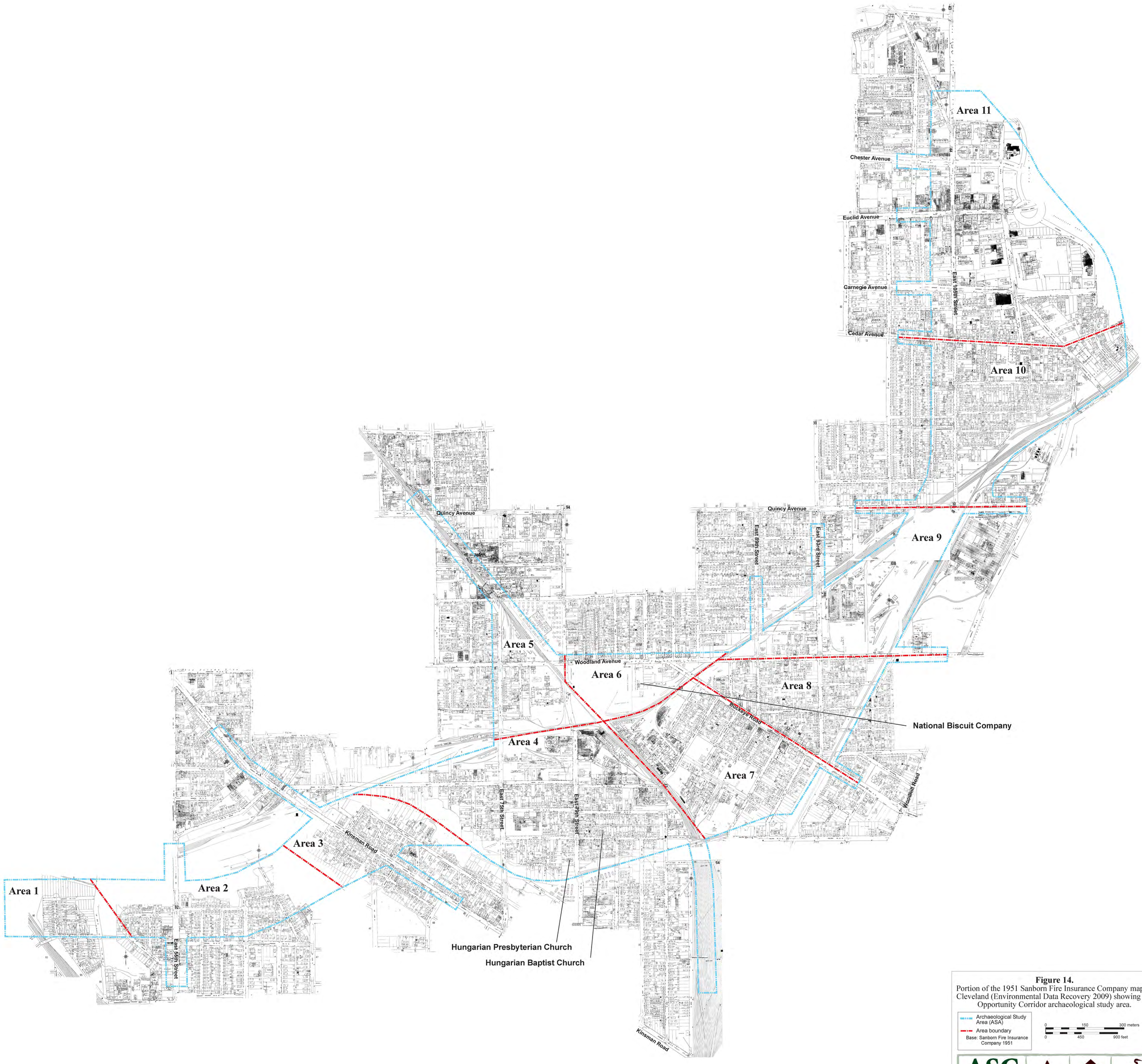

Figure 14.
Portion of the 1951 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery 2009) showing the Opportunity Corridor archaeological study area.

Archaeological Study Area (ASA)
Area boundary
Base: Sanborn Fire Insurance Company 1951

0 150 300 meters
0 450 900 feet
N

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Figure 15. Portion of the 1963 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery 2009) showing the Opportunity Corridor archaeological study area. (See enclosed envelope)

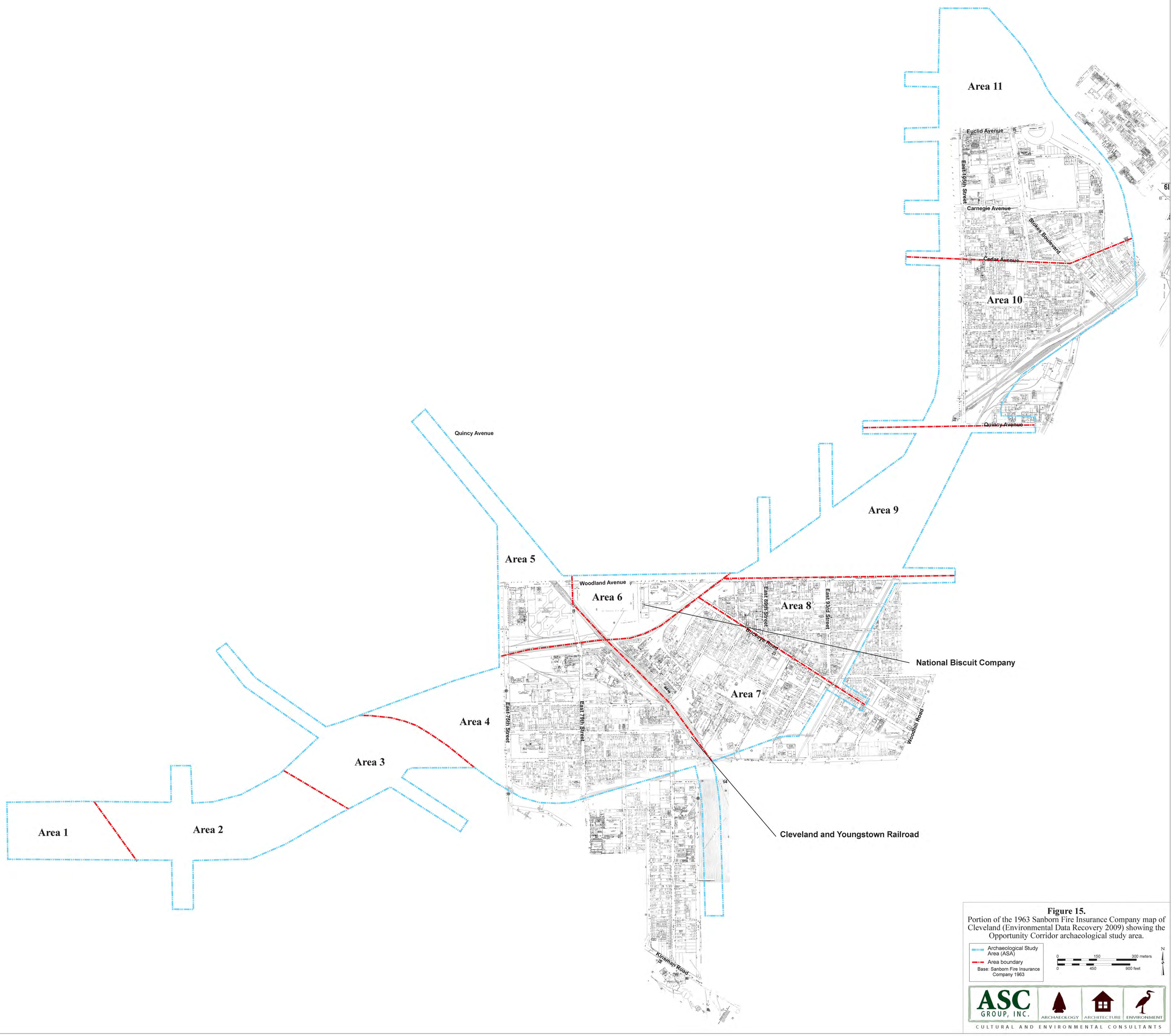

Figure 15.
Portion of the 1963 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery 2009) showing the Opportunity Corridor archaeological study area.

Figure 16. Portion of the 1973 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery 2009) showing the Opportunity Corridor archaeological study area. (See enclosed envelope)

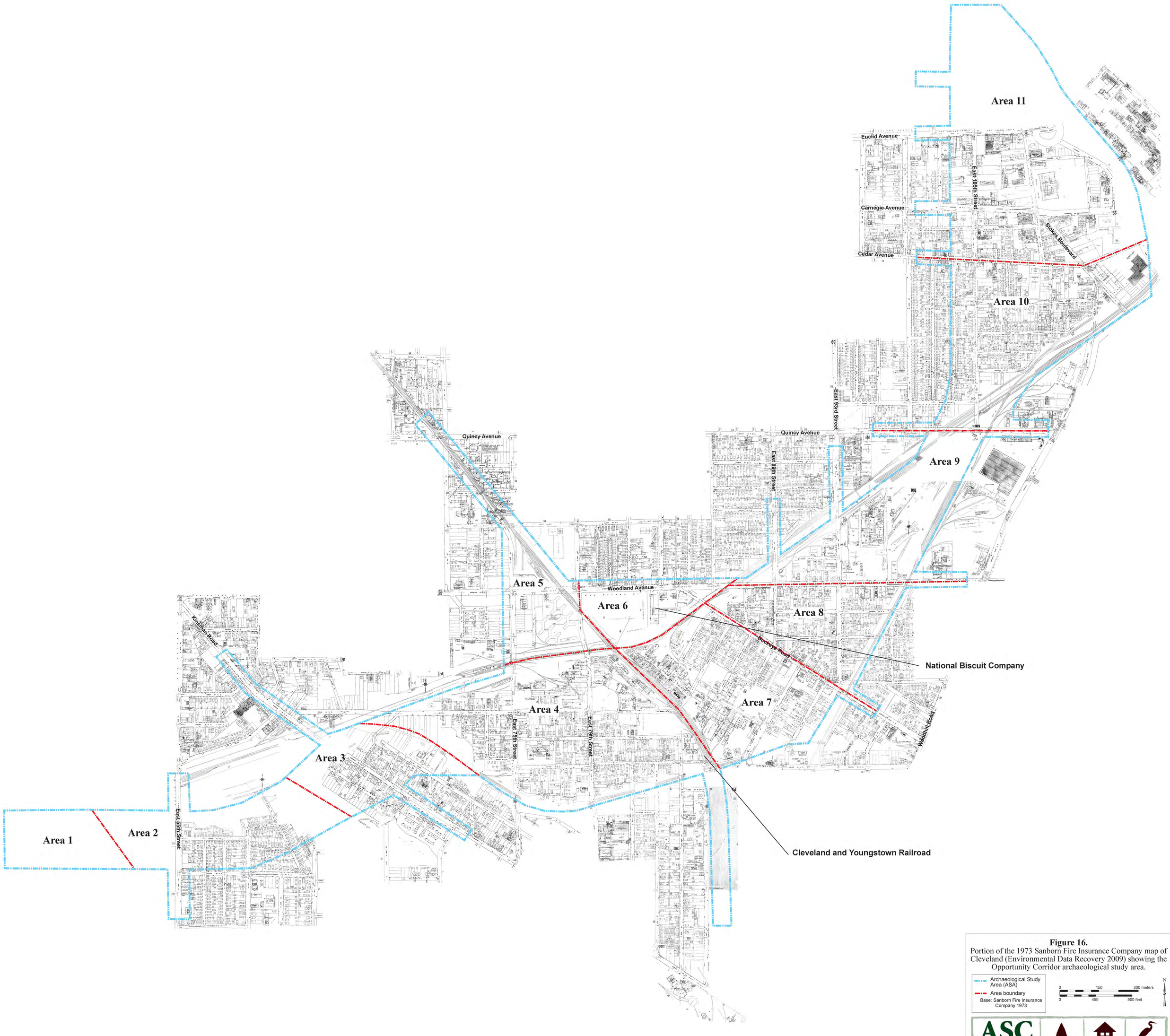

Figure 16.
Portion of the 1973 Sanborn Fire Insurance Company map of Cleveland (Environmental Data Recovery 2009) showing the Opportunity Corridor archaeological study area.

Archaeological Study Area (ASA)
Area boundary
Base: Sanborn Fire Insurance Company 1973

0 150 300 meters
0 450 900 feet
N

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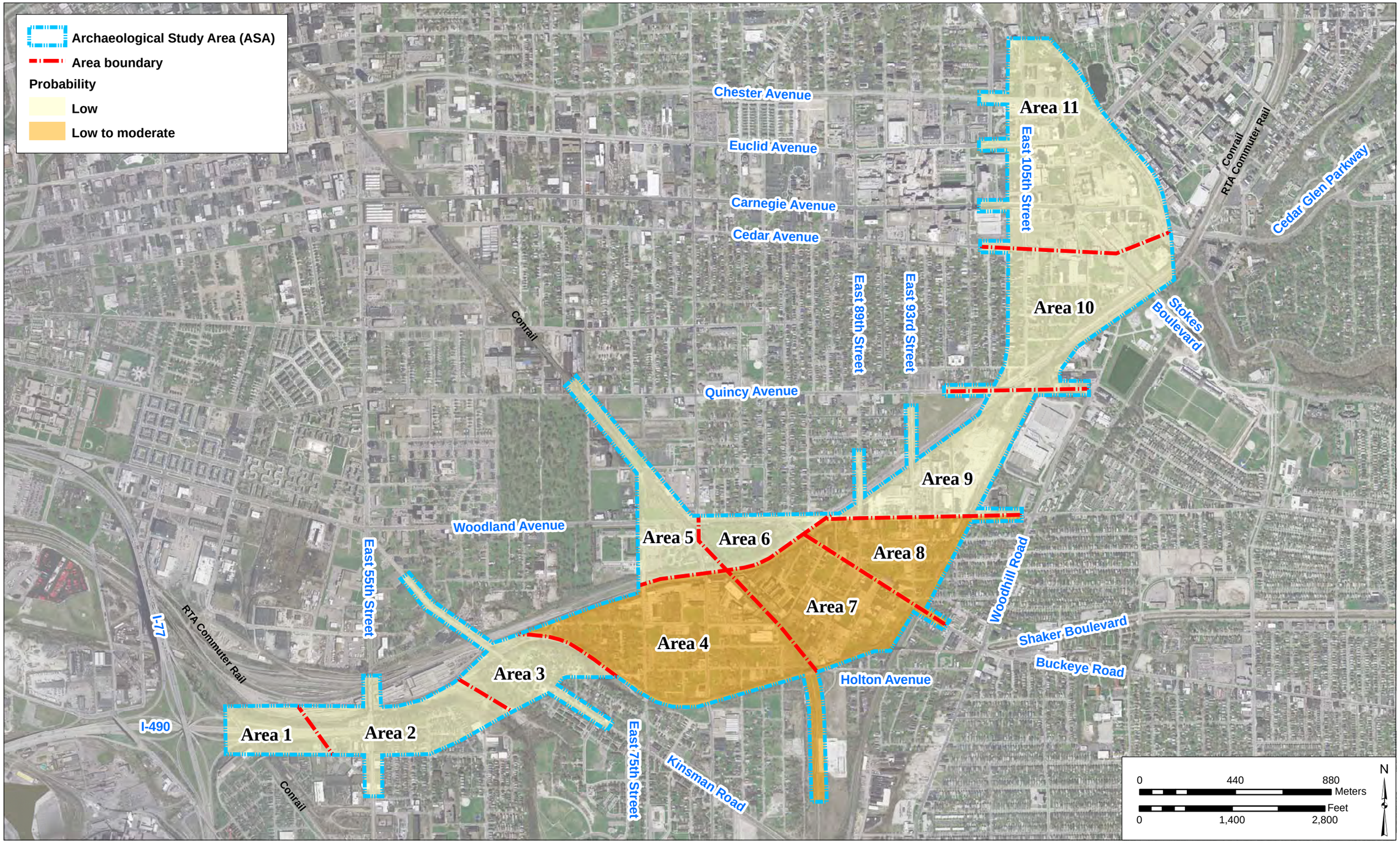

Figure 17. Aerial photograph showing the Opportunity Corridor archaeological study area and levels of archaeological sensitivity.

TABLES

Table 1. Properties Listed In and Determined Eligible for the National Register of Historic Places, and Designated Cleveland Landmarks within the Archaeological Study Area.

Project Name: CUY-Opportunity Corridor — Data Collector's Name: Chuck Mustain

PID: 77333 — Collection Date(s): October 1-6, 2009

Resource Designation	Resource Name	Condition	UTM Coordinates	Address	Significance Criteria
NRHP Reference Number 82001372 Cleveland Landmark	Wade Park Historic District	Extant	Zone 17 448860E 4595155N	East 105th, East Boulevard, Chester Avenue, and Euclid Avenue, Cleveland OH	Architecture/ Engineering
NRHP Reference Number 74001455; Contributing Element of Wade Park Historic District; Cleveland Landmark	The Temple	Extant	Zone 17 448596E 4595124N	University Circle at Silver Park Cleveland, OH 44106-4106	Event and Architecture/ Engineering
Contributing Element of Wade Park Historic District; Cleveland Landmark	Fine Arts Garden and Lagoon	Extant	Zone 17 448980E 4594930N	11150 East Boulevard Cleveland, OH 44106-1711	Landscape Architecture
Contributing Element of Wade Park Historic District; Cleveland Landmark	Fourth Church of Christ Scientist/ Pentecostal Church of Christ	Extant	Zone 17 448670E 4594870N	1925 East 105th Street Cleveland, OH 44106-2210	Architecture/ Engineering
Contributing Element of Wade Park Historic District Cleveland Landmark	Park Lane Villa	Extant	Zone 17 448675E 4594960N	10510 Park Lane Cleveland, OH 44106-1740	Architecture/ Engineering
Contributing Element of Wade Park Historic District Cleveland Landmark	Wade Park Manor	Extant	Zone 17 448760E 1594950N	1890 East 107th Street Cleveland, OH 44106-2235	Architecture/ Engineering
Contributing Element of Wade Park Historic District Cleveland Landmark	Epworth-Euclid Church	Extant	Zone 17 448860E 4594875N	1919 E 107th Street Cleveland, OH 44106-2202	Architecture/ Engineering
NRHP Reference Number 08000113; Cleveland Landmark	Cleveland Club/Tudor Arms	Extant	Zone 17 448829E 4594294N	10660 Carnegie Avenue Cleveland, OH 44106-3019	Event and Architecture/ Engineering
NRHP Reference Number 75001364 Cleveland Landmark	Peerless Motor Company Plant No. 1	Demolished	Zone 17 448150E 4593410N	9400 Quincy Avenue Cleveland, OH 44104-3552	Event and Architecture/ Engineering
NRHP Reference Number 76001402 Cleveland Landmark	St. Elizabeth's Magyar Roman Catholic Church	Extant	Zone 17 447950E 4592600N	9016 Buckeye Road Cleveland, OH 44104-3244	Event and Architecture/ Engineering

Table 1. Properties Listed In and Determined Eligible for the National Register of Historic Places, and Designated Cleveland Landmarks within the Archaeological Study Area.

Project Name: CUY-Opportunity Corridor — Data Collector's Name: Chuck Mustain

PID: 77333 — Collection Date(s): October 1-6, 2009

Resource Designation	Resource Name	Condition	UTM Coordinates	Address	Significance Criteria
NRHP Reference Number 86001253; Cleveland Landmark	Woodland Cemetery	Extant	Zone 17 446422E 4593206N	6901 Woodland Avenue Cleveland, OH 44104-2945	Event and Architecture/ Engineering
NRHP Reference Number 88000055 Cleveland Landmark	Weizer Building	Demolished	Zone 17 4479250E 4592675N	8935 Buckeye Road Cleveland, OH 44104-3255	Event and Architecture/ Engineering
Determined Eligible for NRHP, Not Listed; Cleveland Landmark	Woodland Recreation Center/ Woodland Avenue Bathhouse	Extant	Zone 17 448061E 4592924N	9206 Woodland Avenue Cleveland, OH 44104-3229	Architecture/ Engineering
Cleveland Landmark	Baldwin Reservoir and Grounds	Extant	Zone 17 449460E 4593415N	11216 Stokes Boulevard Cleveland, OH 44104-2526	Architecture/ Engineering
Cleveland Landmark	Parkside Dwellings	Extant	Zone 17 449075E 4594525N	2040 Stearns Road Cleveland, OH 44106-3062	Architecture/ Engineering

Table 2. Archaeology Literature Review Table.

Project Name: CUY-Opportunity Corridor
PID: 77333

Data Collector's Name: Al Tonetti
Collection Date(s): September 10, 2009

Site Identifier	UTM Coordinates	Temporal Period and Site Type	Landform	Site Dimensions (ft/m)	National Register Criteria Status (Reference, Date, and Condition)
33CU72	Zone 17 E450300 N4593360	Woodland; unknown	Terrace	Unknown	Not applied
33CU73	Zone 17 E449450 N4593770	Woodland; unknown	Terrace	Unknown	Not applied
33CU86	Zone 17 E450430 N4593500	Late Archaic; unknown	Terrace	Unknown	Not applied
33CU196	Zone 17 E450700 N4593320	1850–1899; industrial	Bluff edge	5 ft x 13 ft x 3 ft (1.5 m x 4 m x 1 m)	Not applied
33CU323	Zone 17 E448560 N4594800	1870–1900; hotel refuse dump	Beach ridge	33 ft x 33 ft 10 m x 10 m	Not applied
33CU495	Zone 17 E447742 N4590197	1930–2000; residential	Moraine	7,535 ft^2 (700 m^2)	Recommended not eligible
33CU496	Zone 17 E447752 N4590158	1930–2000; residential	Moraine	5,382 ft^2 (500 m^2)	Recommended not eligible
33CU497	Zone 17 E447758 N4590127	1930 – 2000; residential	Upland hill slope	2,153 ft^2 (200 m^2)	Recommended not eligible
33CU498	Zone 17 E445660 N4592030	1913–1980	Bluff edge	8342 ft^2 775 m^2	Not applied

ATTACHMENT A: SCOPE OF SERVICES

SCOPE OF SERVICE
ASC GROUP, INC.
PREPARATION DATE: April 28, 2009

Project Title

Opportunity Corridor
City of Cleveland
Cuyahoga County, Ohio
HNTB Corporation

Level Of Survey

Phase Ia Archaeological Literature Review
Historical Map Review
Prehistoric Context Preparation for Archaeology Study Area

Project Area Description

The Opportunity Corridor project is a major roadway construction project in the City of Cleveland, Cuyahoga County, Ohio. The twin goals of the project are to provide connectivity between the eastern end of I-490 at East 55th Street and the University Circle at 105th Street via a multi-lane, limited access boulevard and to provide for the impetus for redevelopment of vacant and derelict properties in the "Forgotten Triangle" between Kinsman Road, Woodhill Road, and Woodland Avenue. Steps 1-4 of the Major Project PDP have been completed and the resulting documents are currently being reviewed by ODOT.

Current design plans have reduced the size of the Opportunity Corridor Study Area from earlier iterations, which were developed in 2003 and 2004. At present, the Study Area encompasses 715.5 acres (289.6 ha). In general, the Study Area extends from the eastern end of I-490, just west of East 55th Street to University Circle, approximately 825 ft (251.5 m) north of Chester Avenue along 105th Street, and from GCRTA railroad tracks south of Holton Avenue to the north side of Woodland Avenue. The Study Area varies in width and and contour throughout this area, and Quincy Avenue, as well as along the Conrail railroad tracks which roughly bisect that Study Area from north to south. The side extensions are planned to accommodate roadway improvements, grade separations, and access points to connect to new boulevard to the local street grid. A map of the Study Area is included in Attachment 1, on which it is demarcated by a solid blue line.

Phase Ia Archaeological Literature Review Report

This archaeological investigation will be completed under Major PDP task 5.4.2. To complete the survey report, the Phase Ia archaeological investigation will include:

- Phase Ia Archaeological Literature Review that provides a background records check for the entire Study Area.

- The background research/records check will consist of a thorough review of the available archaeological and historical information pertinent to the Study Area. The review will include:

  --An inspection of the Ohio Historic Preservation Office (OHPO) site files for archaeological sites recorded within or near the Study Area;

  --A synthesis of professional archaeological work conducted in nearby areas as it may relate to the understanding of resources within the Study Area; and

  --A preliminary analysis of the area's environmental characteristics that may aid in understanding the location patterning of prehistoric sites.

To accomplish these tasks, ASC Group, Inc. (ASC) proposes to complete four report components that will aid in determining potential archaeological sites within the final road alignment, when construction designs are finalized. Those components are a literature review, a prehistoric and environmental context, an historic map review, and an archaeological sensitivity assessment.

Literature Review

The purpose of the literature is to determine whether previously identified archaeological resources exist within or adjacent to the Study Area. In addition to identifying known archaeological concerns, this information will allow a more accurate estimation of the nature of other, undocumented resources that may be present within the Study Area. These cultural resources may be listed in or may be determined eligible for listing in the National Register of Historic Places (NRHP) including: potential archaeological/historic districts, NRHP properties, Ohio Archaeological Inventory (OAI) properties, and locally designated landmarks.

The following references may be consulted: Mills' (1914) *Archeological Atlas of Ohio*; OHPO's Online Mapping System; National Historic Landmarks list; Ohio's NRHP data base; NRHP files; NRHP formal determination of eligibility list; inactive NRHP nomination files; active/pending NRHP nomination files; NRHP questionnaire files; Troutman's (2003) *Ohio Cemeteries: 1803-2003*; USGS 7.5' OAI topographic maps; and OAI forms.

Specific resources and archives that will be consulted in the City of Cleveland include the map files at the Cleveland Public Library. The public library contains copies of Sanborn Fire Insurance Company maps from the late nineteenth-century (ca. 1886) through 1952 that pertain to the current Study Area as well as a series of Hopkins Atlases that document the same region from ca. 1881 through 1932. The map room of the Cuyahoga County Auditor's Office will also be consulted to recover plat maps of the various nineteenth-century City wards and twentieth-century City districts that lie within the Study Area. The Sanborn maps will provide a highly detailed review of development and redevelopment within the Study Area while the plat maps should document changes in property size and shapes throughout the region. In addition, the site files at the Cleveland Landmarks Commission will be reviewed for locally designated landmarks within or adjacent to the Study Area.

As a final note, the literature review will include a detailed review of previous archaeological

research conducted for similar projects and in similar contexts in the City of Cleveland. This will aid in identifying the potential for resource preservation within the current Study Area. Of particular interest will be the cultural resource investigations associated with the recent public transportation improvements along Euclid Avenue, which crosses the northern portion of the Study Area.

Map Review

Two previous archaeological projects have been completed within or adjacent to portions of the current Study Area. In addition, a Phase I History/Architecture Survey will be completed for the current Study Area by Michael Baker, Jr., Inc. The Phase I H/A survey will include a detailed historic context for the Opportunity Corridor Study, which can be supplemented by the historic contexts generated for the previous archaeological surveys. Rather than restating the results of those surveys, ASC will complete a detailed historic map review that will compliment the existing or proposed historic contexts and allow an accurate assessment of potential archaeological resource types within the Study Area. In addition, the map review will document levels of disturbance within broad portions of the Study Area that may have compromised the integrity of potential archaeological resources. Comparing the documented levels of resource preservation and the anticipated disturbance within past project areas will allow ASC staff to assess the potential for resource preservation within the current APE.

The map review will be used to track development within the Study Area from the earliest historic development in the region to the present day. While the map review will document the construction and demolition of buildings and structures within the Study Area, the shear number of those constructions prohibits identifying and tracking the life history of individual atlas sites or historic map building locations. Instead, the map review will focus on broader development trends within geographically distinct portions of the Study Area. These sub-areas will be defined by features like existing railroad and major roadways and may encompass several city blocks.

It should be noted that a property specific disturbance assessment may be warranted for impacted properties, once a final road alignment has been chosen. At that time, additional historic context information for affected parcels like population census data for residences and occupational or industrial data from nineteenth- and twentieth-century city directories should be consulted. Those documents will aid in developing a property specific context to guide any subsurface investigations that may be recommended.

Using the sub-areas as the base units of analysis, the outline of the Study Area and the to-be-determined sub-areas will be overlaid on available historic maps of Cleveland. Each map will be presented as an individual overlay and the nineteenth- and twentieth-century historic development within each sub-area will be discussed. Conducting this level of review will aid in the identification of areas of significant disturbance as well as areas of potential preservation, and will also aid in documenting the potential resource types within each sub-area. Notable disturbances within the Study Area include major transportation routes like Conrail and GCRTA railroad tracks, major industrial development north of Woodland Avenue, and modern medical, commercial, and research institution development associated in the vicinity of University Circle. This information will be essential in developing an efficient and effective subsurface testing strategy, should that prove necessary. Cartographic resources that will be reviewed include Sanborn Fire Insurance

maps from the nineteenth and twentieth centuries; nineteenth-century historic atlases; plat maps; and 15' and 7.5' topographic maps; and twentieth-century aerial photographs.

Environmental Prehistoric Context Preparation

ASC will prepare an environmental and prehistoric context for the Study Area. The environmental and prehistoric context will establish the framework for decision-making concerning the identification, evaluation, and treatment of prehistoric properties in the project area. The prehistoric context will be developed using the archaeology literature review data and will draw substantially on previous archaeological investigation within and adjacent to the Study Area. Each of these reports should include a prehistoric context that describes the dominant prehistoric cultural developments and site types in Cleveland and within the Study Area.

Archaeological Sensitivity Assessment

The ultimate goal of the three previous report components is the archaeological sensitivity assessment. This portion of the report will draw on the information from all three data sets to determine the type of resources that can be anticipated within each sub-area of the Study Area and the likelihood that archaeological evidence of those resources survives beneath ground surface. As a final note, the archaeological sensitivity assessment will attempt to discern whether archaeologically sensitive portions of the Study Area have the potential to contain significant archaeological sites that might prove eligible for inclusion in the NRHP. Each sub-area, or portions thereof, will be assigned to one of three sensitivity classifications: low, medium, and high, and a color coded map will be prepared that delineates the bounds of each sensitive area. Please note that the sensitivity assessment will be largely dependent on the historic context prepared for the Phase I History/Architecture Survey that will be prepared by Michael Baker, Jr., Inc. ASC will be unable to complete the sensitivity assessment until we have reviewed that document.

Report Preparation

The four components of the Phase Ia Archaeological Investigation will be combined into a unified presentation including table, charts, and figures as needed. A total of 10 copies of the report will be produced and distributed as follows:

HNTB, Inc.:	8 copies
ASC Group, Inc.:	2 copies

Services To Be Provided By HNTB

Base mapping will be provided to ASC electronically if possible, to facilitate report mapping efforts.